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EXP NO: 1

AZURE DEVOPS ENVIRONMENT SETUP

Date :

Aim:

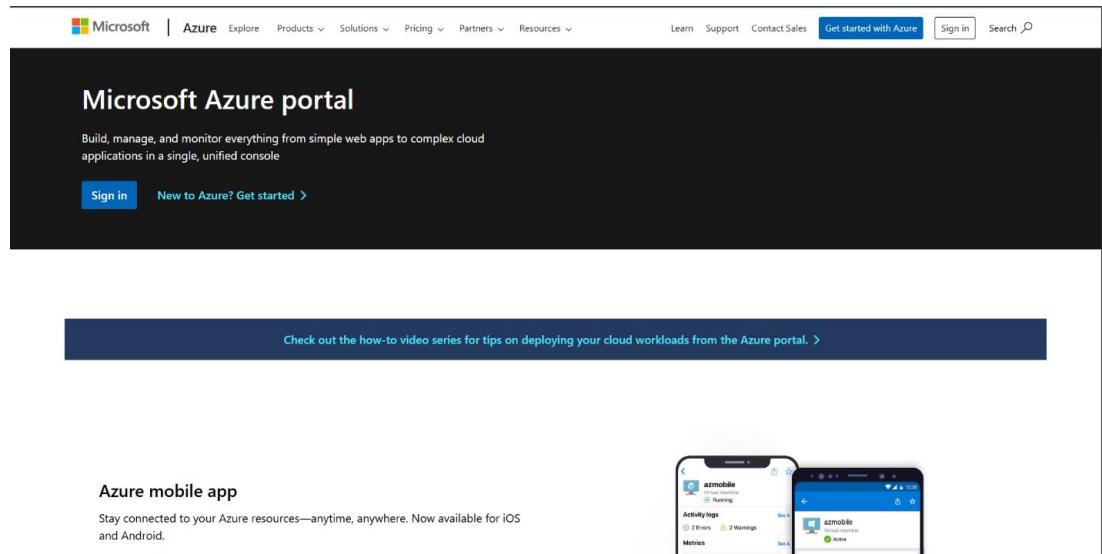
To set up and access the Azure DevOps environment by creating an organization through the Azure portal.

INSTALLATION

1. Open your web browser and go to the Azure website: <https://azure.microsoft.com/en-us/get-started/azure-portal>.

Sign in using your Microsoft account credentials.

If you don't have a Microsoft account, you can create one here: <https://signup.live.com/?lic=1>



Microsoft Azure portal

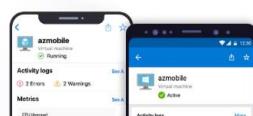
Build, manage, and monitor everything from simple web apps to complex cloud applications in a single, unified console

Sign in New to Azure? Get started >

Check out the how-to video series for tips on deploying your cloud workloads from the Azure portal. >

Azure mobile app

Stay connected to your Azure resources—anytime, anywhere. Now available for iOS and Android.



2. Azure home page

The screenshot shows the Microsoft Azure home page. At the top, there is a search bar with the placeholder "Search resources, services, and docs (G+)" and a Copilot button. The top right corner shows the user's email (231501153@rajalakshm...) and a lock icon. Below the header, there are sections for "Azure services" and "Resources".

Azure services

- Create a resource
- Azure DevOps organizations
- App Services
- Static Web Apps
- Cost Management ...
- Subscriptions
- Virtual machines
- Storage accounts
- Kubernetes services
- More services

Resources

Recent

Name	Type	Last Viewed
data	App Service	3 weeks ago
software_group	Resource group	3 weeks ago
software	Static Web App	3 weeks ago
demo	Static Web App	3 weeks ago
demo_group-ba4e	Resource group	3 weeks ago
demo	Static Web App	3 weeks ago
demo_group	Resource group	3 weeks ago
Azure for Students	Subscription	3 weeks ago

See all

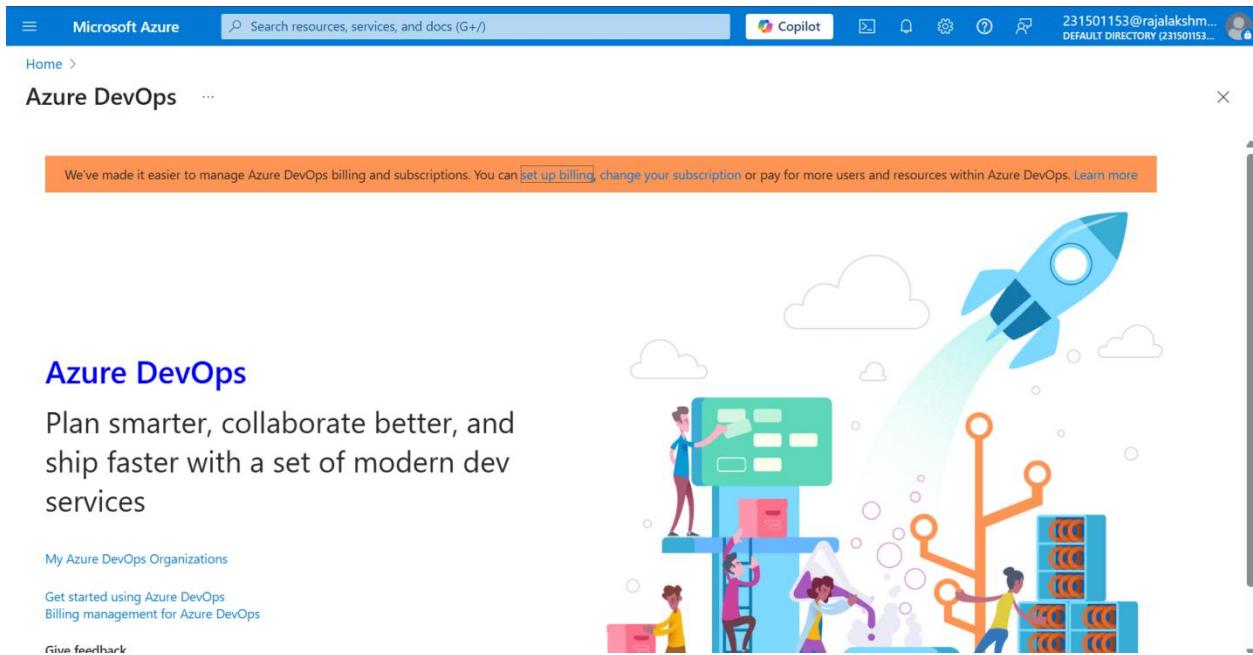
3. Open a DevOps environment in the Azure platform by typing **Azure DevOps Organizations** in the search bar.

The screenshot shows the Microsoft Azure search results for the query "azure dev". The search bar at the top has the text "azure dev". The results are filtered under the "All" tab, showing 99+ services and 23 Marketplace items. The results list includes:

- Azure Device Registry
- Azure DevOps organizations** (highlighted in orange)
- Azure Database for MySQL servers
- Education: Azure DevOps tools for teaching
- Azure DevOps
- Build Agents for Azure DevOps
- Azure DevOps Auditing
- Azure DevOps Backup Tool
- Self Hosted Runner for Azure DevOps
- Continue searching in Microsoft Entra ID

On the right side of the search results, there is a large, colorful illustration of a rocket launching from a base, with clouds and a person in the background. The Microsoft Entra ID section is visible on the right.

4. Click on the **My Azure DevOps Organization** link and create an organization and you should be taken to the Azure DevOps Organization Home page.



Result:

Successfully accessed the Azure DevOps environment and created a new organization through the Azure portal.

EXP NO: 2

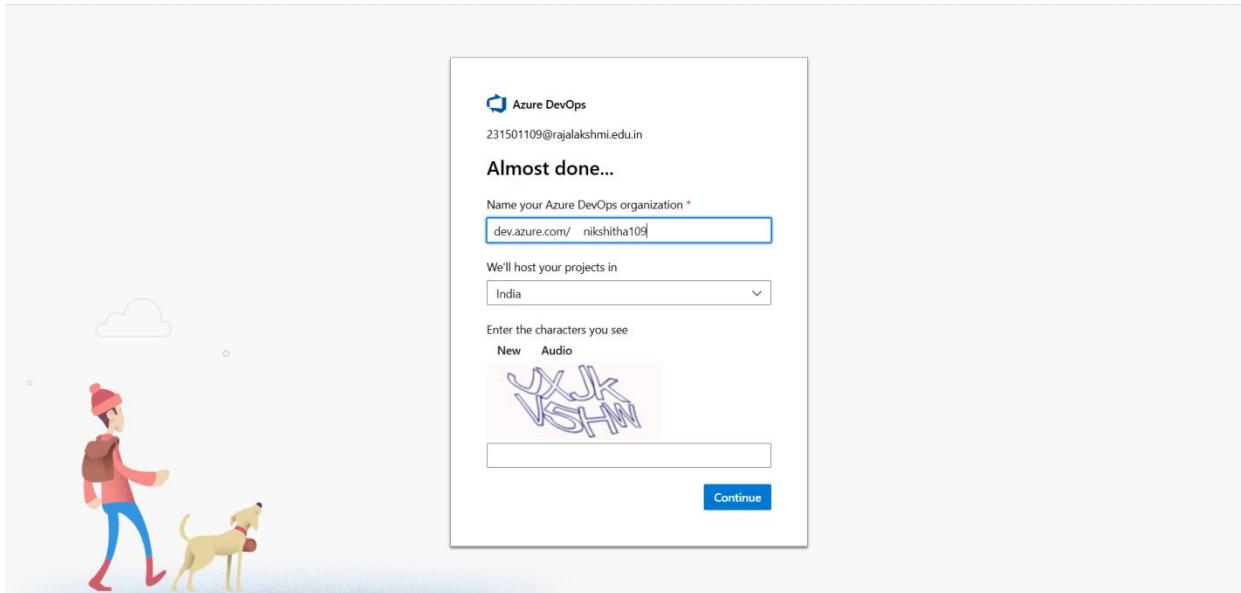
AZURE DEVOPS PROJECT SETUP AND USER STORY MANAGEMENT

Date :

Aim:

To set up an Azure DevOps project for efficient collaboration and agile work management.

1. Create An Azure Account



2. Create the First Project in Your Organization

a. After the organization is set up, you'll need to create your first **project**. This is where you'll begin to manage code, pipelines, work items, and more.

b. On the organization's **Home page**, click on the **New Project** button.

c. Enter the project name, description, and visibility options:

Name: Choose a name for the project (e.g., **LMS**).

Description: Optionally, add a description to provide more context about the project.

Visibility: Choose whether you want the project to be **Private** (accessible only to those invited) or **Public** (accessible to anyone).

d. Once you've filled out the details, click **Create** to set up your first project.

Create new project

X

Project name *

Batch Data Analysis and Visualizations

Description

Visibility



Public

Anyone on the internet can view the project. Certain features like TFVC are not supported.



Private

Only people you give access to will be able to view this project.



Public projects are disabled for your organization. You can turn on public visibility with [organization policies](#).

^ Advanced

Version control

Git

Work item process

Agile

Cancel

Create

3. Once logged in, ensure you are in the correct organization. If you're part of multiple organizations, you can switch between them from the top left corner (next to your user profile). Click on the Organization name, and you should be taken to the Azure DevOps Organization Home page.

Microsoft

Shri Dharshini Sign out

SD

Shri Dharshini Edit profile

231501153@rajalakshmi.edu.in

Microsoft account

India 231501153@rajalakshmi.edu.in

Visual Studio Dev Essentials

Get everything you need to build and deploy your app on any platform.

Use your benefits

Azure DevOps Organizations

Create new organization

Projects

- Digital lending library application
- digital library
- Batch data analysis and visualization
- SHRI DHARSHINI
- ATM

Actions

Open in Visual Studio

New project

> dev.azure.com/nikshithaharikrishnan2005 (Member)

4. Project dashboard

Azure DevOps 231501153 / Batch data analysis and visu... / Overview / Summary

Search

Private Invite

BV Batch data analysis and visualization

Overview

Summary

Dashboards

Wiki

Boards

Repos

Pipelines

Test Plans

Artifacts

Project settings

About this project

About this project

This project is a web-based application designed for batch data analysis and visualization, hosted on Microsoft Azure. It enables users to upload multiple CSV datasets at once and automatically performs key statistical analyses such as mean, median, and standard deviation.

In addition to numerical insights, the system provides dynamic visualizations including histograms, scatter plots, bar charts, and pie charts, helping users gain clear and interactive insights into their data.

The solution leverages a modular architecture:

DataUploader handles multi-file uploads and storage.

DataAnalyzer processes datasets for core statistical metrics.

DataVisualizer renders various plots for enhanced understanding.

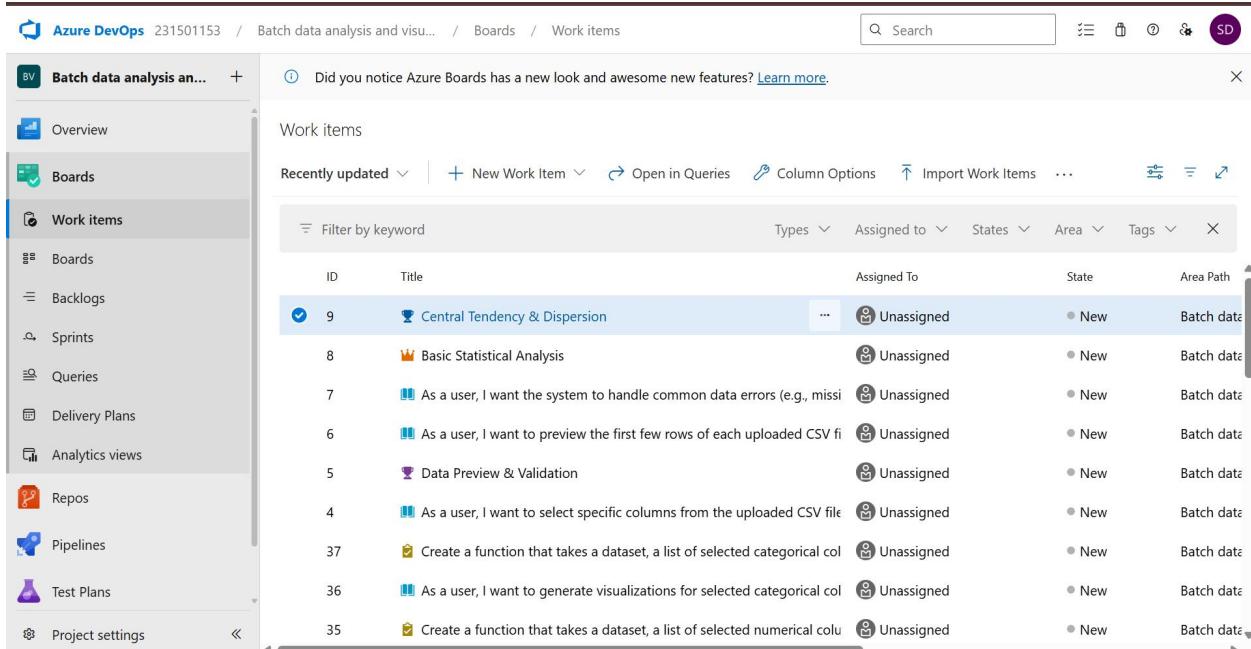
Dataset class standardizes and manages the uploaded data for consistency and reusability.

Deployed in Azure, the application ensures scalability, reliability, and efficient handling of large volumes of data, making it suitable for educational, business, and research environments.

5. To manage user stories:

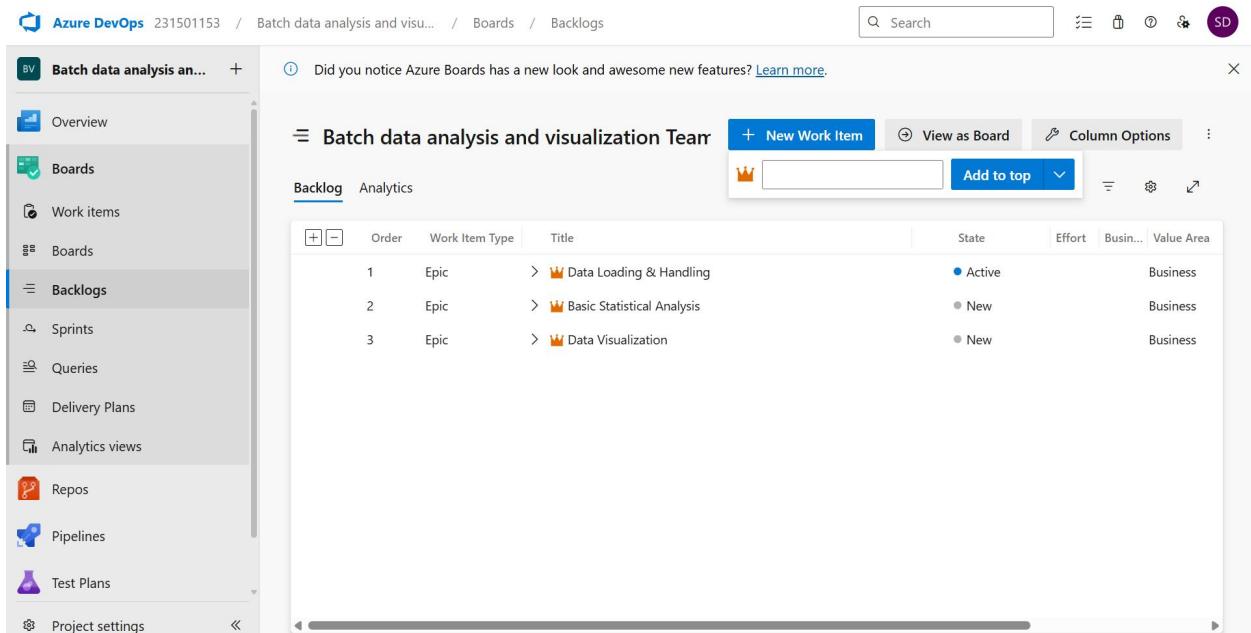
- From the **left-hand navigation menu**, click on **Boards**. This will take you to the main **Boards** page, where you can manage work items, backlogs, and sprints.

b. On the **work items** page, you'll see the option to **Add a work item** at the top. Alternatively, you can find a + button or **Add New Work Item** depending on the view you're in. From the **Add a work item** dropdown, select **User Story**. This will open a form to enter details for the new User Story.



The screenshot shows the 'Work items' page in Azure DevOps. The left sidebar is collapsed, and the main area displays a table of user stories. The table has columns for ID, Title, Assigned To, State, and Area Path. The first user story is selected, showing its details: 'Central Tendency & Dispersion' with ID 9, assigned to 'Unassigned', in 'New' state, and under 'Batch data' area.

ID	Title	Assigned To	State	Area Path
9	Central Tendency & Dispersion	Unassigned	New	Batch data
8	Basic Statistical Analysis	Unassigned	New	Batch data
7	As a user, I want the system to handle common data errors (e.g., missing values)	Unassigned	New	Batch data
6	As a user, I want to preview the first few rows of each uploaded CSV file	Unassigned	New	Batch data
5	Data Preview & Validation	Unassigned	New	Batch data
4	As a user, I want to select specific columns from the uploaded CSV file	Unassigned	New	Batch data
37	Create a function that takes a dataset, a list of selected categorical columns, and returns a list of categorical columns	Unassigned	New	Batch data
36	As a user, I want to generate visualizations for selected categorical columns	Unassigned	New	Batch data
35	Create a function that takes a dataset, a list of selected numerical columns, and returns a list of numerical columns	Unassigned	New	Batch data



The screenshot shows the 'Backlogs' page in Azure DevOps. The left sidebar is collapsed, and the main area displays a table of epics. The table has columns for Order, Work Item Type, Title, State, Effort, Business Area, and Value Area. The first epic is selected, showing its details: 'Data Loading & Handling' with Order 1, type 'Epic', state 'Active', and business area 'Business'.

Order	Work Item Type	Title	State	Effort	Business Area	Value Area
1	Epic	> Data Loading & Handling	Active		Business	
2	Epic	> Basic Statistical Analysis	New		Business	
3	Epic	> Data Visualization	New		Business	

Result: Successfully created an Azure DevOps project with user story management and agile workflow setup.

EXP NO: 3

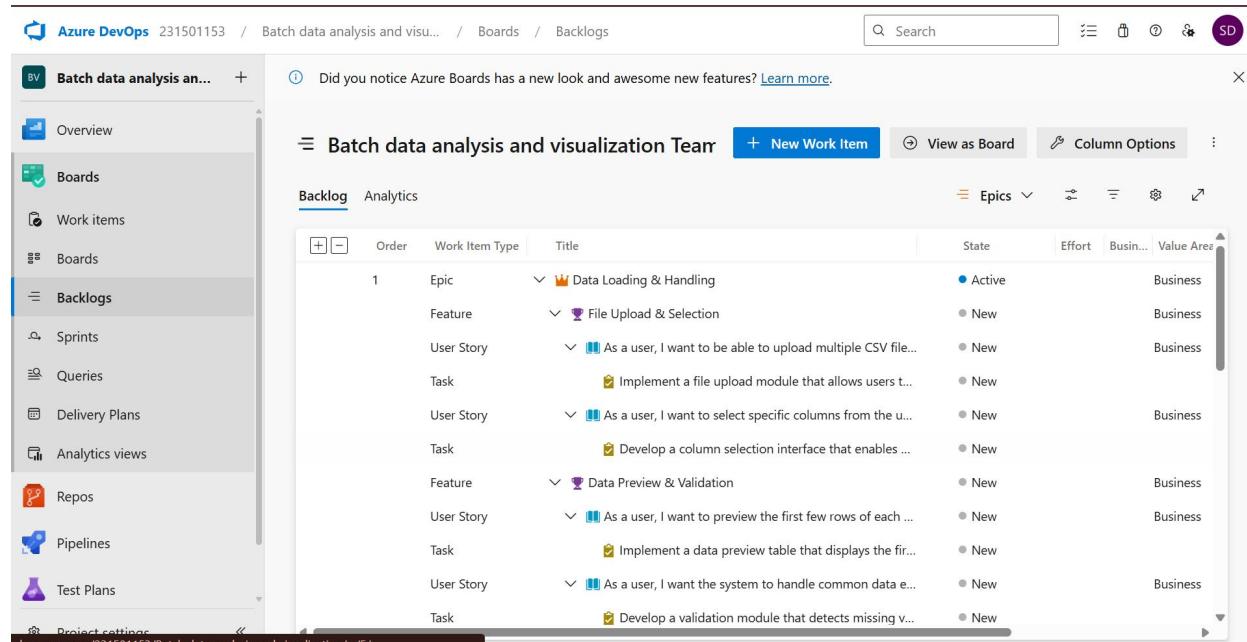
Date :

SETTING UP EPICS, FEATURES, AND USER STORIES FOR PROJECT PLANNING

Aim:

To create epics, user stories, features, and tasks for the project, Batch Data Analysis and Visualization.

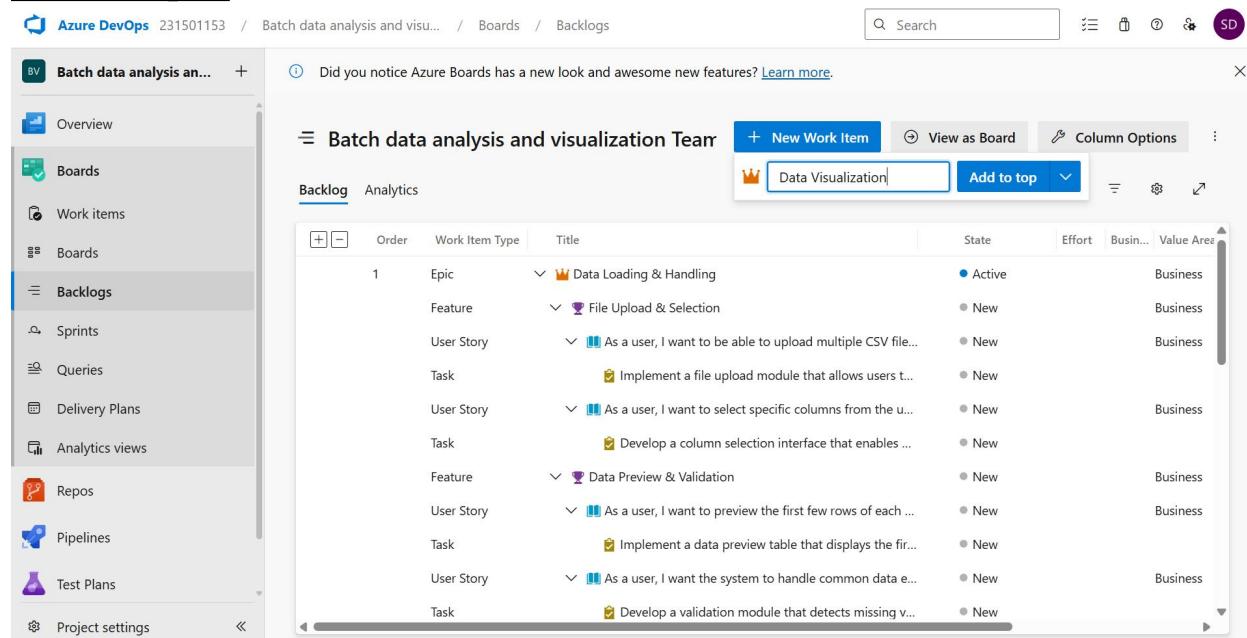
1.Create Epic, Features, User Stories, Task



The screenshot shows the Azure DevOps Backlog board for the 'Batch data analysis and visualization Team'. The board is organized into columns: Order, Work Item Type, Title, State, Effort, Business, and Value Area. The backlog is currently filtered to show 'Epics'.

Order	Work Item Type	Title	State	Effort	Business	Value Area
1	Epic	Data Loading & Handling	Active			Business
	Feature	File Upload & Selection	New			Business
	User Story	As a user, I want to be able to upload multiple CSV file...	New			Business
	Task	Implement a file upload module that allows users to...	New			Business
	User Story	As a user, I want to select specific columns from the u...	New			Business
	Task	Develop a column selection interface that enables users...	New			Business
	Feature	Data Preview & Validation	New			Business
	User Story	As a user, I want to preview the first few rows of each ...	New			Business
	Task	Implement a data preview table that displays the first few...	New			Business
	User Story	As a user, I want the system to handle common data errors...	New			Business
	Task	Develop a validation module that detects missing values and...	New			Business

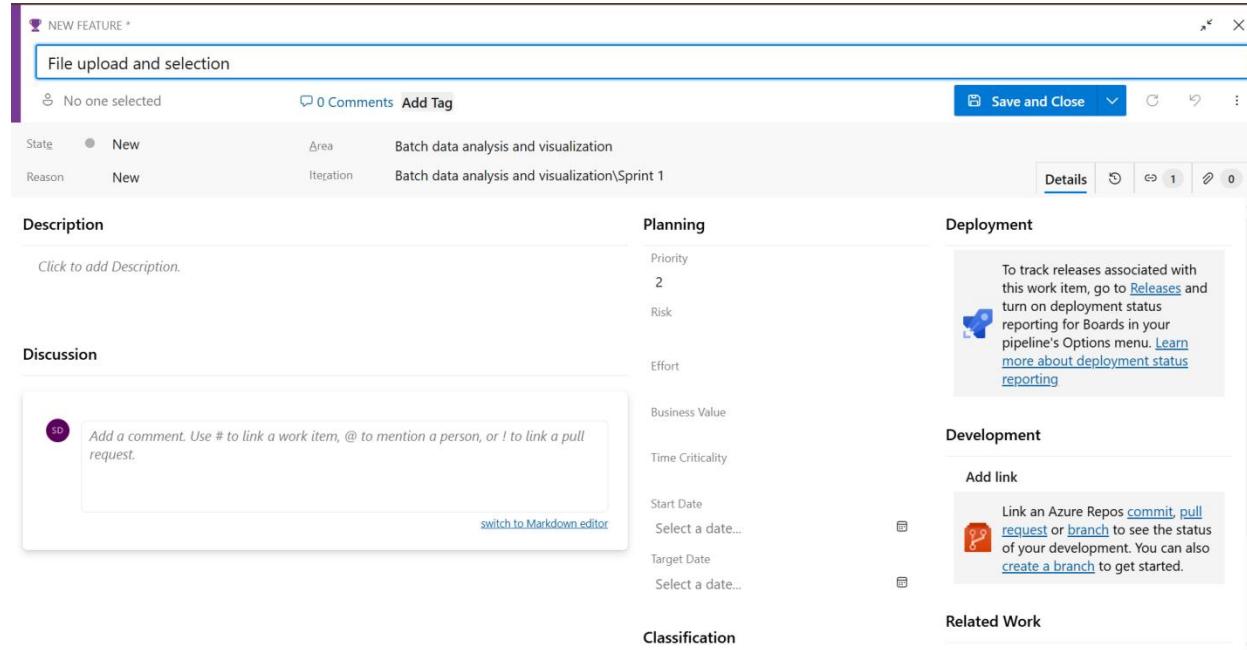
2. Fill in Epics



The screenshot shows the Azure Boards Backlog view for the 'Batch data analysis and visualization' team. The backlog is organized into an epic, features, user stories, and tasks. The epic is 'Data Loading & Handling'. It contains a feature 'File Upload & Selection' with a user story 'As a user, I want to be able to upload multiple CSV files...' and a task 'Implement a file upload module that allows users to...'. Another feature 'Data Preview & Validation' is also listed. The backlog includes columns for Order, Work Item Type, Title, State, Effort, Business, and Value Area.

Order	Work Item Type	Title	State	Effort	Business	Value Area
1	Epic	Data Loading & Handling	Active		Business	
	Feature	File Upload & Selection	New		Business	
	User Story	As a user, I want to be able to upload multiple CSV files...	New		Business	
	Task	Implement a file upload module that allows users to...	New		Business	
	User Story	As a user, I want to select specific columns from the u...	New		Business	
	Task	Develop a column selection interface that enables ...	New		Business	
	Feature	Data Preview & Validation	New		Business	
	User Story	As a user, I want to preview the first few rows of each ...	New		Business	
	Task	Implement a data preview table that displays the fir...	New		Business	
	User Story	As a user, I want the system to handle common data e...	New		Business	
	Task	Develop a validation module that detects missing v...	New		Business	

3. Fill in Features



The screenshot shows the 'File upload and selection' work item creation page. The work item type is 'Feature'. The 'Planning' section includes fields for Priority (2), Risk, and Effort. The 'Deployment' section includes a note about tracking releases. The 'Development' section includes a note about linking to Azure Repos. The 'Classification' section is at the bottom.

State	New	Area	Batch data analysis and visualization
Reason	New	Iteration	Batch data analysis and visualization\Sprint 1

Description
Click to add Description.

Discussion
Add a comment. Use # to link a work item, @ to mention a person, or ! to link a pull request.

Planning
Priority: 2
Risk
Effort
Business Value
Time Criticality
Start Date
Select a date...
Target Date
Select a date...

Deployment
To track releases associated with this work item, go to [Releases](#) and turn on deployment status reporting for Boards in your pipeline's Options menu. [Learn more about deployment status reporting](#)

Development
Add link
Link an Azure Repos [commit](#), [pull request](#) or [branch](#) to see the status of your development. You can also [create a branch](#) to get started.

Classification

4. Fill in User Stories

USER STORY 3

3 As a user, I want to be able to upload multiple CSV files at once, so I can analyze them together.

No one selected 0 Comments Add Tag

Save and Close Follow Details

State: New Area: Batch data analysis and visualization

Reason: New Iteration: Batch data analysis and visualization\Sprint 1

Updated by Shri Dharshini: Mar 27

Description

Click to add Description.

Acceptance Criteria

Click to add Acceptance Criteria.

Planning

Story Points: 2

Priority: 2

Risk

Deployment

To track releases associated with this work item, go to [Releases](#) and turn on deployment status reporting for Boards in your pipeline's Options menu. [Learn more about deployment status reporting](#)

Classification

Value area: Business

Development

Add link

Link an Azure Repos [commit](#), [pull request](#) or [branch](#) to see the status of your development. You can also [create a branch](#) to get started.

Related Work

Result: Thus, epics, features, user stories, and tasks have been created successfully.

EXP NO: 4

Date :

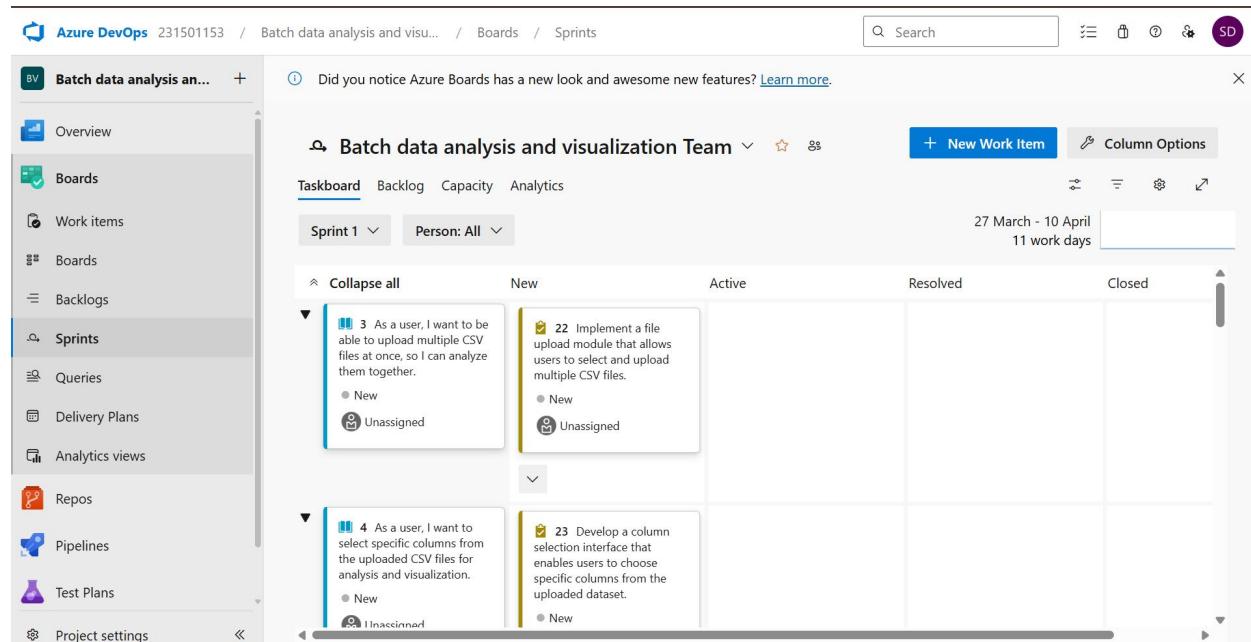
SPRINT PLANNING

Aim:

To assign a user story to a specific sprint for the project, Batch Data Analysis and Visualization.

SPRINT PLANNING

Sprint 1



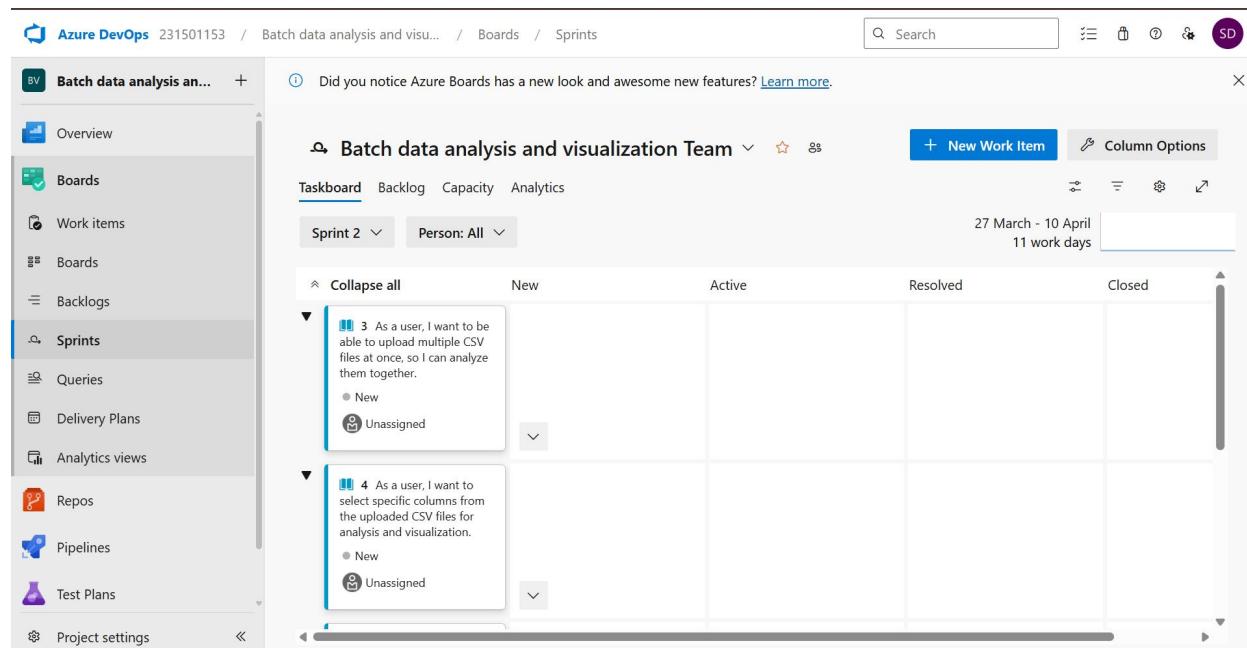
Did you notice Azure Boards has a new look and awesome new features? [Learn more.](#)

Batch data analysis and visualization Team

Sprint 1 27 March - 10 April 11 work days

New	Active	Resolved	Closed
3 As a user, I want to be able to upload multiple CSV files at once, so I can analyze them together. New Unassigned	22 Implement a file upload module that allows users to select and upload multiple CSV files. New Unassigned		
4 As a user, I want to select specific columns from the uploaded CSV files for analysis and visualization. New Unassigned	23 Develop a column selection interface that enables users to choose specific columns from the uploaded dataset. New		

Sprint 2

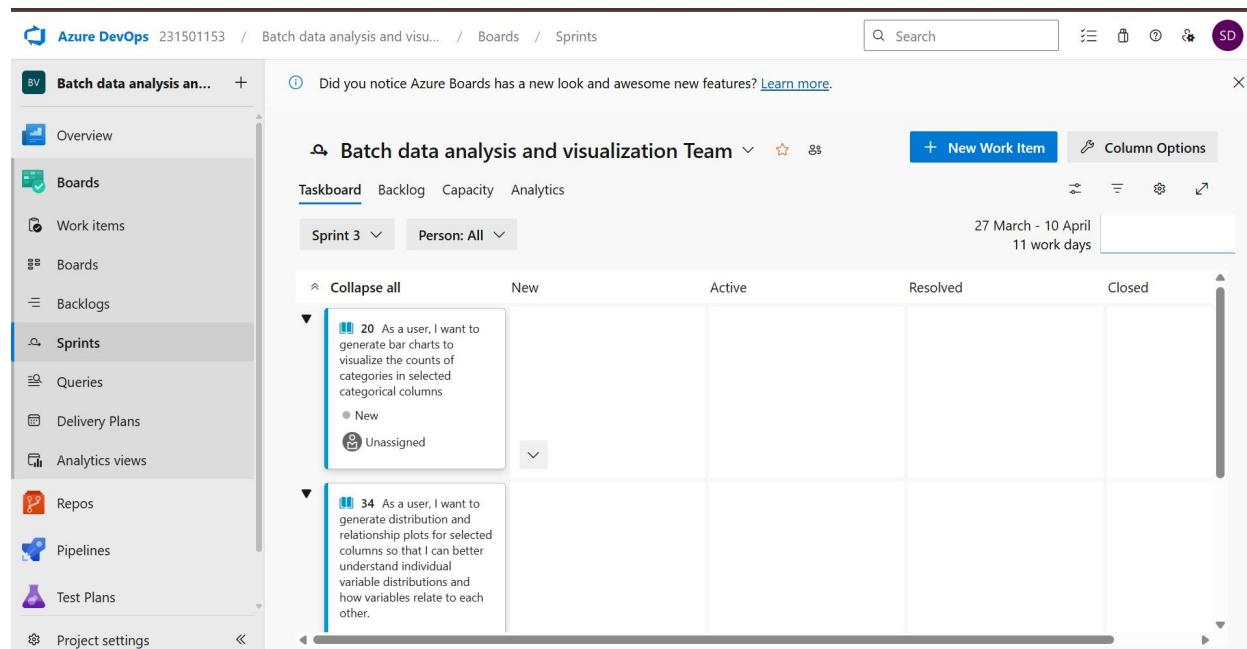


A screenshot of the Azure DevOps Boards interface for the 'Batch data analysis and visualization Team'. The left sidebar shows the 'Sprints' section is selected. The main board area displays two work items under 'Sprint 2':

- Work item 3: As a user, I want to be able to upload multiple CSV files at once, so I can analyze them together. Status: New, Unassigned.
- Work item 4: As a user, I want to select specific columns from the uploaded CSV files for analysis and visualization. Status: New, Unassigned.

The top navigation bar shows the project name 'Batch data analysis an...', the sprint 'Sprint 2', and the date range '27 March - 10 April 11 work days'.

Sprint 3



A screenshot of the Azure DevOps Boards interface for the 'Batch data analysis and visualization Team'. The left sidebar shows the 'Sprints' section is selected. The main board area displays two work items under 'Sprint 3':

- Work item 20: As a user, I want to generate bar charts to visualize the counts of categories in selected categorical columns. Status: New, Unassigned.
- Work item 34: As a user, I want to generate distribution and relationship plots for selected columns so that I can better understand individual variable distributions and how variables relate to each other. Status: New, Unassigned.

The top navigation bar shows the project name 'Batch data analysis an...', the sprint 'Sprint 3', and the date range '27 March - 10 April 11 work days'.

Result: The Sprints are created for the project, Batch Data Analysis and Visualization.

EXP NO: 5

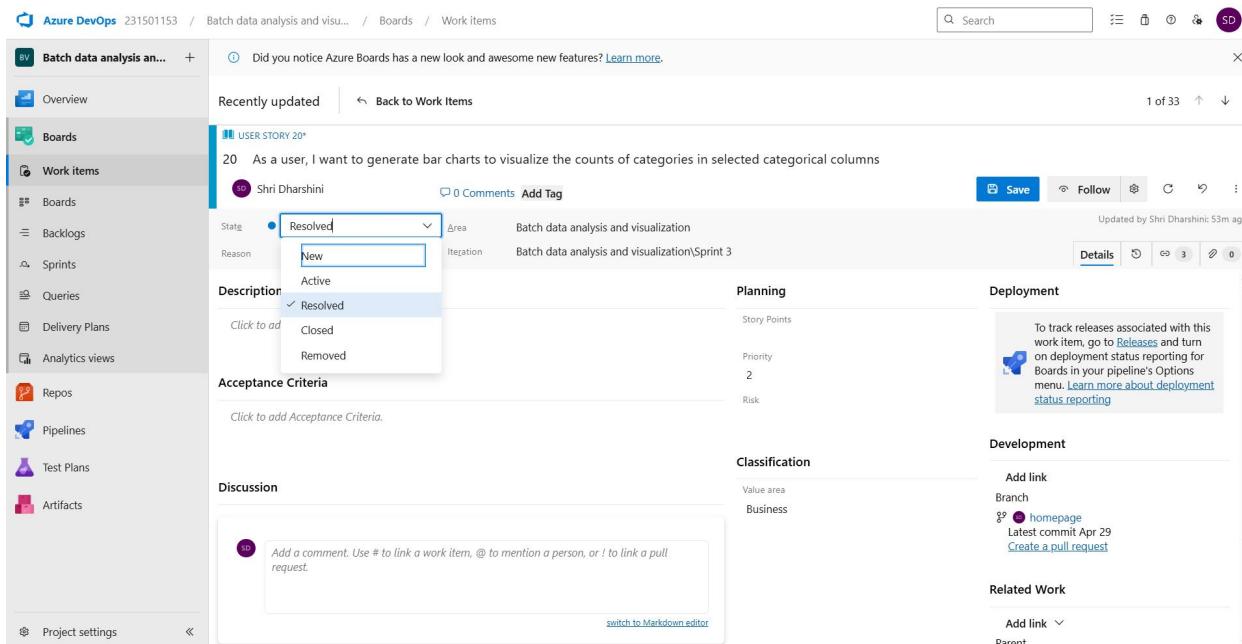
POKER ESTIMATION

Date :

Aim:

Create Poker Estimation for the user stories for the project, Batch Data Analysis and Visualization.

Poker Estimation



The screenshot shows the Azure DevOps Boards interface. On the left, the navigation bar includes 'Work items', 'Boards', and 'Work items' (selected). The main area displays a 'USER STORY 20*' titled 'As a user, I want to generate bar charts to visualize the counts of categories in selected categorical columns'. The story is assigned to 'Shri Dharsini' and has '0 Comments' and 'Add Tag' options. The 'State' dropdown is open, showing 'Resolved' (selected), 'New', 'Active', and 'Resolved' again. Other fields include 'Area' (Batch data analysis and visualization), 'Iteration' (Batch data analysis and visualization\Sprint 3), 'Planning' (Story Points, Priority 2, Risk), 'Classification' (Value area Business), 'Development' (Branch homepage, latest commit April 29, Create a pull request), and 'Related Work' (Add link, Parent). The top right shows a search bar and navigation icons.

Result:

The Estimation/Story Points is created for the project using Poker Estimation.

EXP NO: 6

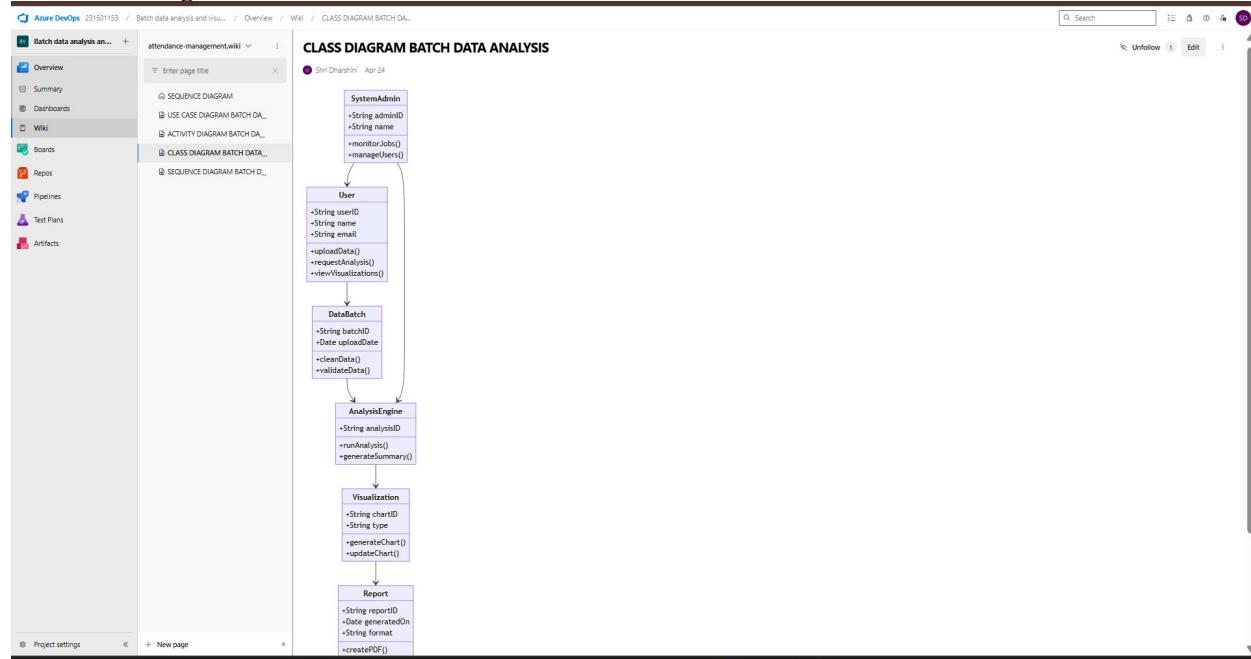
Date :

DESIGNING CLASS DIAGRAM AND SEQUENCE DIAGRAM

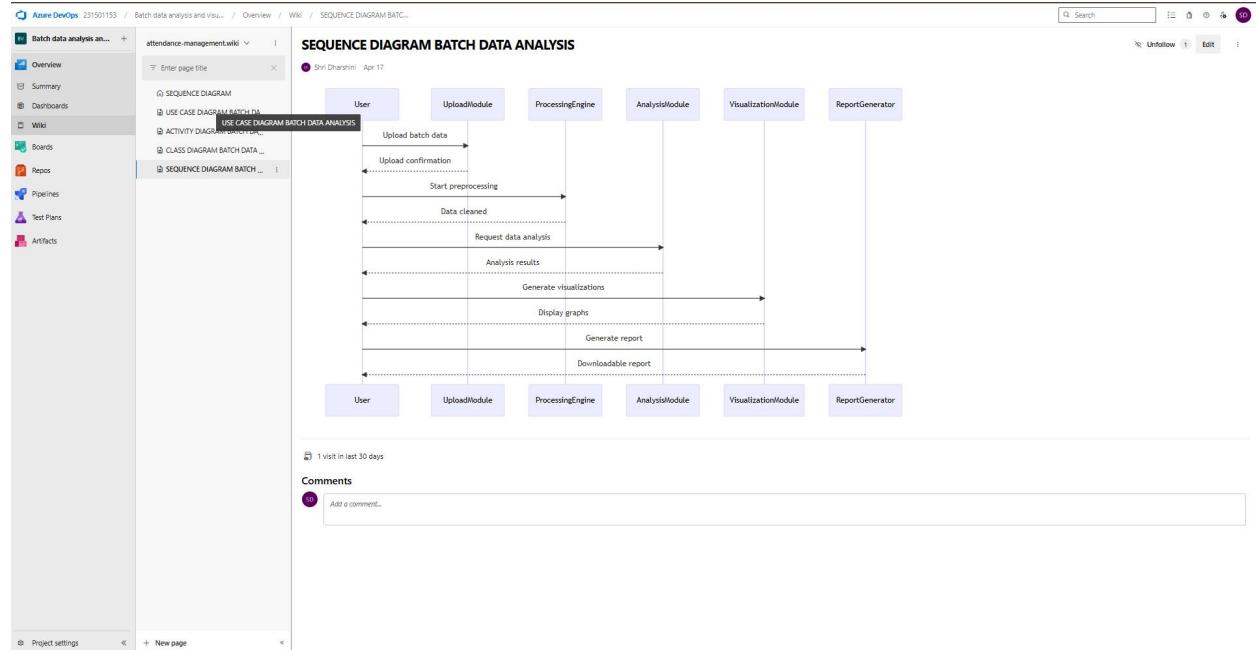
Aim:

To design a Class Diagram and Sequence Diagram for the project, Batch Data Analysis and Visualization.

6A. Class Diagram



6B. Sequence Diagram



Result: The Class and Sequence Diagrams are designed successfully for the project, Batch Data Analysis and Visualization.

EXP NO: 7

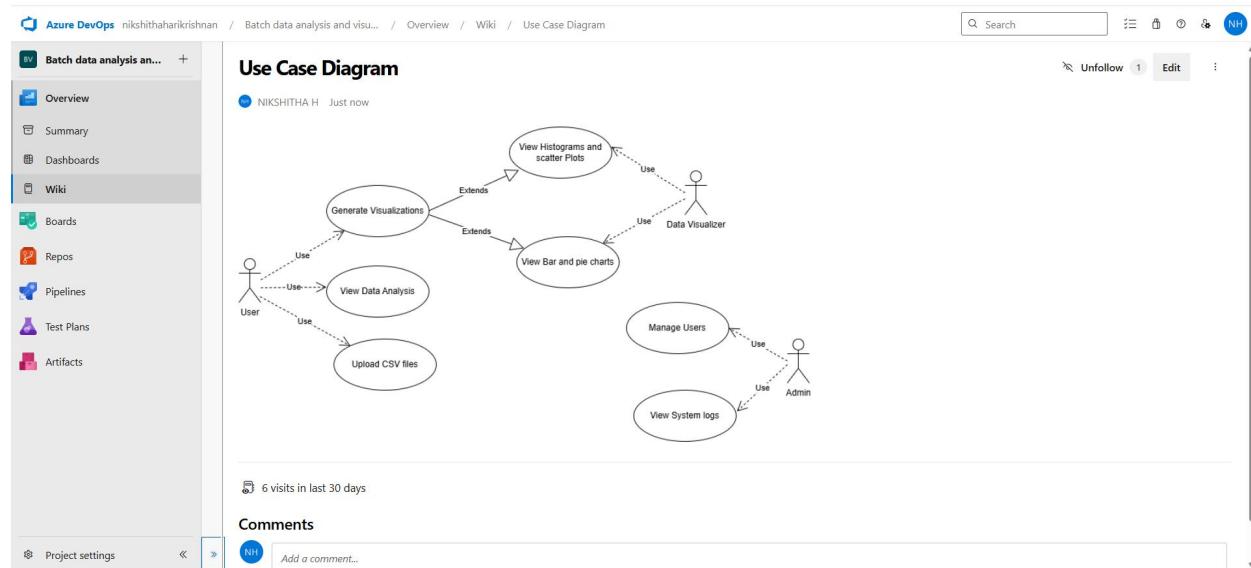
DESIGNING USE CASE DIAGRAM AND ACTIVITY DIAGRAM

Date :

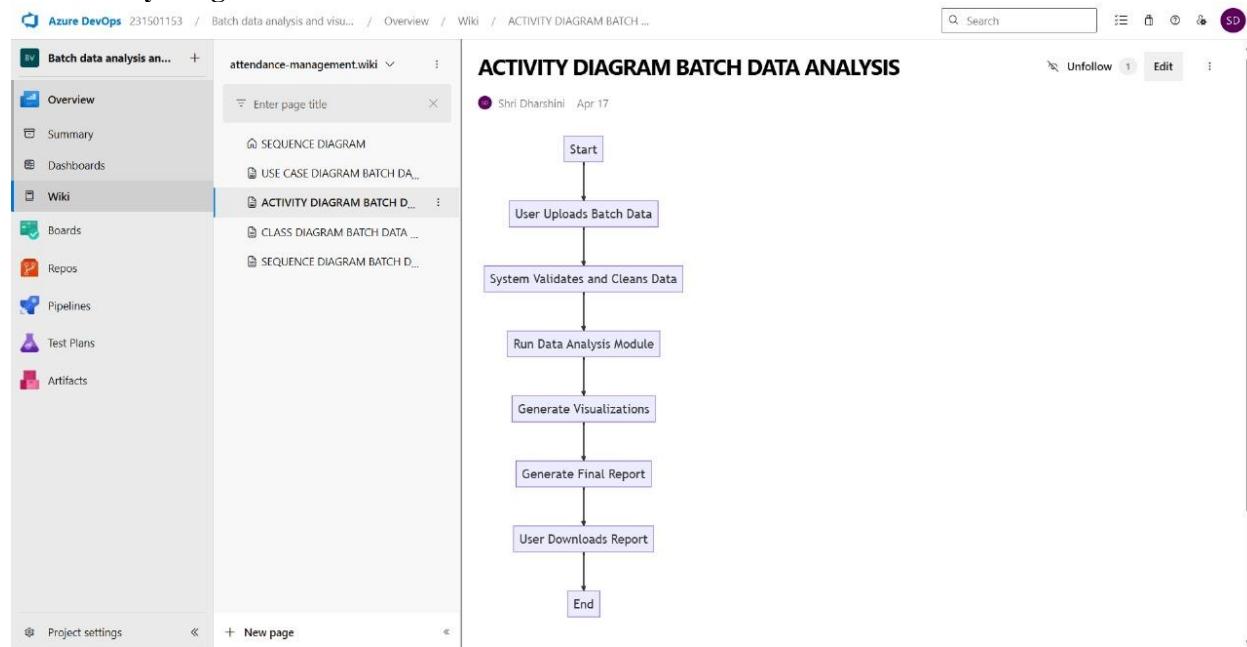
Aim:

To design a Use Case Diagram and an Activity Diagram for the project, Batch Data Analysis and Visualization.

7A. Use Case Diagram



7B. Activity Diagram



Result: The Use Case and Activity Diagrams are designed successfully for the project, Batch Data Analysis and Visualization.

EXP NO: 8	TESTING – TEST PLANS AND TEST CASES
Date :	

Aim:

Test Plans and Test Case and write two test cases for at least five user stories showcasing the happy path and error scenarios in azure DevOps platform.

Test Planning and Test Case

Test Case Design Procedure

1. Understand Core Features of the Application

1. User Authentication
2. Uploading and Managing Batch Data Files
3. Running Batch Analysis Jobs
4. Viewing Interactive Visualizations and Charts
5. Exporting Analysis Results

2. Define User Interactions

- Simulate real scenarios (e.g., upload dataset, trigger job, download result).

3. Design Happy Path Test Cases

- Validate all main functions work properly (e.g., successful login, upload, and visualization).

4. Design Error Path Test Cases

- Simulate unexpected or invalid user behavior (e.g., upload fails, unsupported file, job timeout).

5. Break Down Steps and Expected Results

- Each test case includes step-by-step actions and expected outcomes.

6. Use Clear Naming and IDs

- Example: TC01 – Successful File Upload, TC08 – Visualization Fails.

7. Separate Test Suites

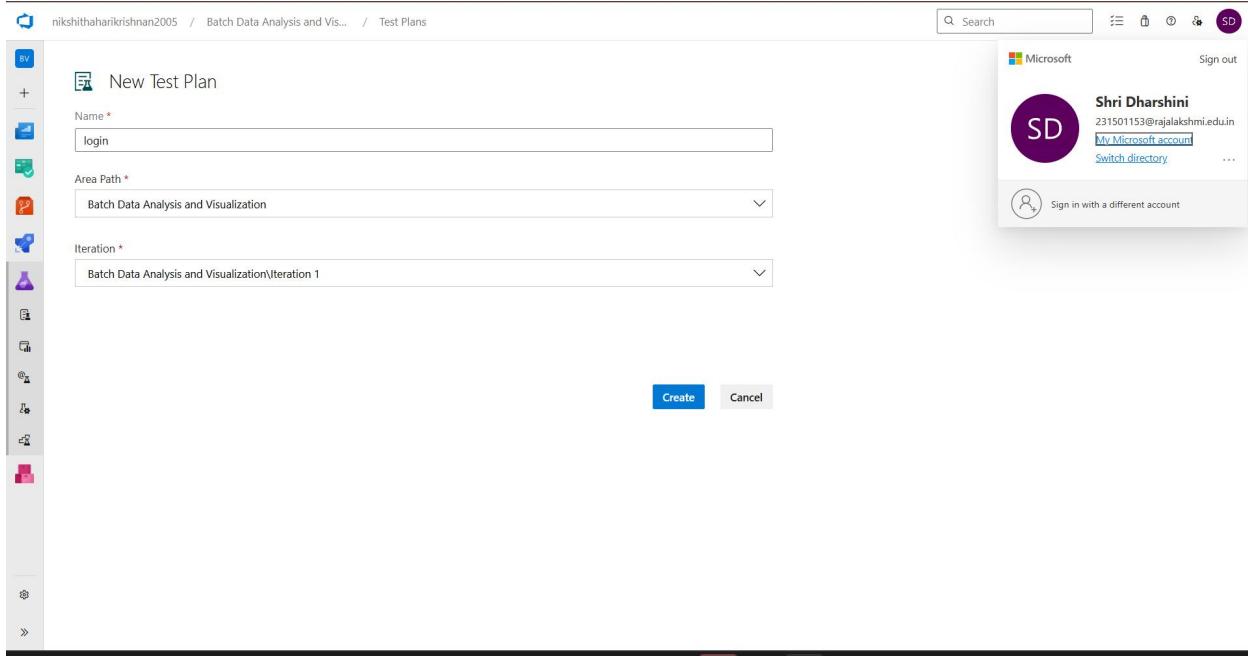
- Suites grouped by modules (Login, File Upload, Job Execution, Visualization, Export).

8. Prioritize and Review

- Critical test cases marked as High Priority.

- Mapped to user stories in Azure DevOps.

1. New test plan



New Test Plan

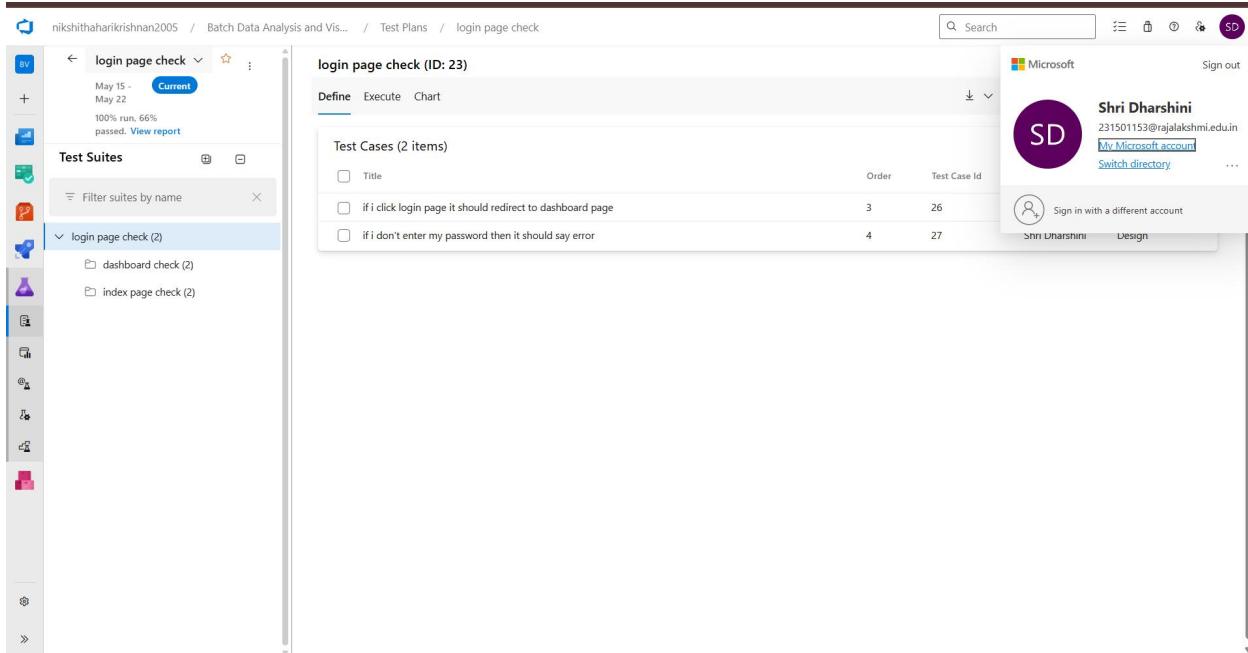
Name *

Area Path *

Iteration *

Create **Cancel**

2. Test suite



Test Suites

login page check (ID: 23)

Test Cases (2 items)

	Order	Test Case Id
<input type="checkbox"/> Title	3	26
<input type="checkbox"/> if i click login page it should redirect to dashboard page	4	27
<input type="checkbox"/> if i don't enter my password then it should say error		

3. Test case

Give two test cases for at least five user stories showcasing the happy path and error scenarios in azure DevOps platform.

USER STORIES

- As a user, I want to log in using my username and password so that I can access my account.
- As a user, I should not be able to submit the login form with empty fields so that I can provide the required data.
- As a user, I want to log out when I click the logout button so that I can end my session securely.
- As a user, I want to be redirected to the login page after logging out so that I know my session has ended and I can log in again if needed.
- As a user, I want to be able to upload multiple CSV files at once, so I can analyze them together.

Test Suites

Test Suite: TS01 - User Authentication (ID: 54)

1. TC01 – Successful Login

- **Action:**
 - Navigate to the login page
 - Enter valid credentials
 - Click "Login"
- **Expected Results:**
 - User redirected to dashboard.
- **Type:** Happy Path

2. TC02 – Prevent Login with Empty Fields

- **Action:**
 - Navigate to the login page.
 - Leave username and/or password fields empty.
 - Click on "Login".
- **Expected Results:**
 - Validation error message is shown prompting user to fill required fields.
- **Type:** Error Path
-

Test Suite: TS02 - Logout Functionality (ID: 47)

1. TC03 – Successful Logout and Redirect

- **Action:**
 - Log in successfully.
 - Click the "Logout" button.
- **Expected Results:**

- User session ends.
- User is redirected to the login page.
- **Type:** Happy Path

2. TC04 – Access Protected Page After Logout

- **Action:**
 - Logout.
 - Attempt to navigate back to a protected page (e.g., dashboard) via browser back button or URL.
- **Expected Results:**
 - User is redirected to the login page and denied access.
- **Type:** Error Path

Test Suite: TS03 - CSV Upload Functionality (ID: 88)

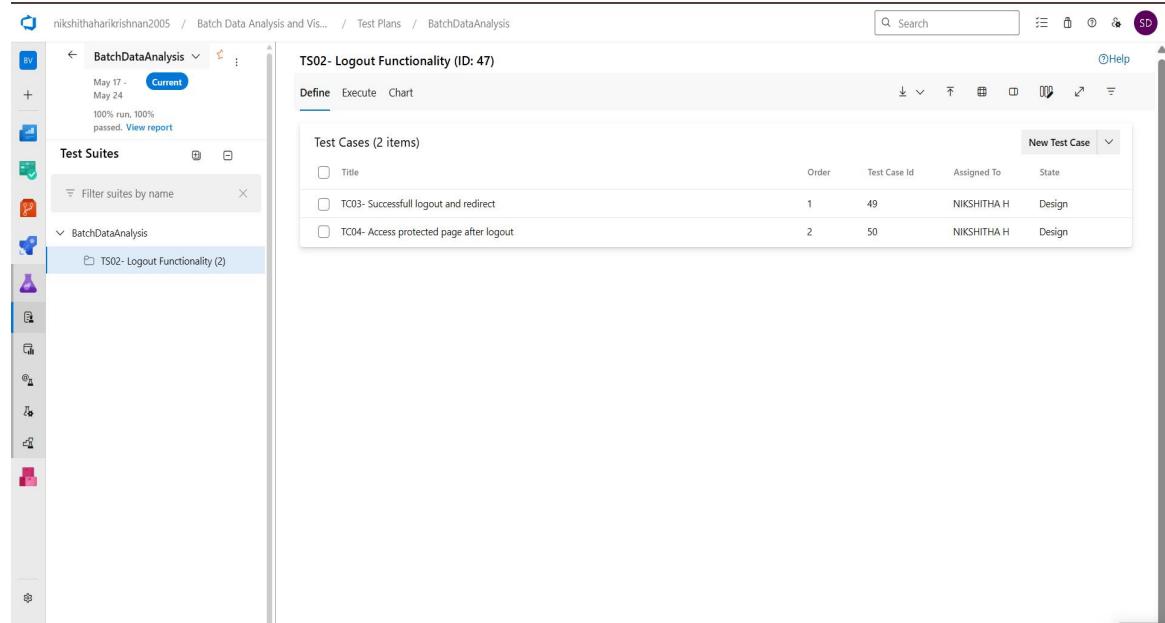
1. TC05 – Upload Multiple Valid CSV Files

- **Action:**
 - Log in successfully
 - Navigate to the CSV upload section
 - Select multiple valid .csv files
 - Click "Upload"
- **Expected Results:**
 - All files are uploaded successfully.
 - Files are listed and ready for analysis.
- **Type:** Happy Path

2. TC06 – Upload Attempt Without Selecting Files

- **Action:**
 - Navigate to the CSV upload section
 - Click "Upload" without selecting any files.
- **Expected Results:**
 - Validation message prompting the user to select at least one file.
- **Type:** Error Path

Test Cases



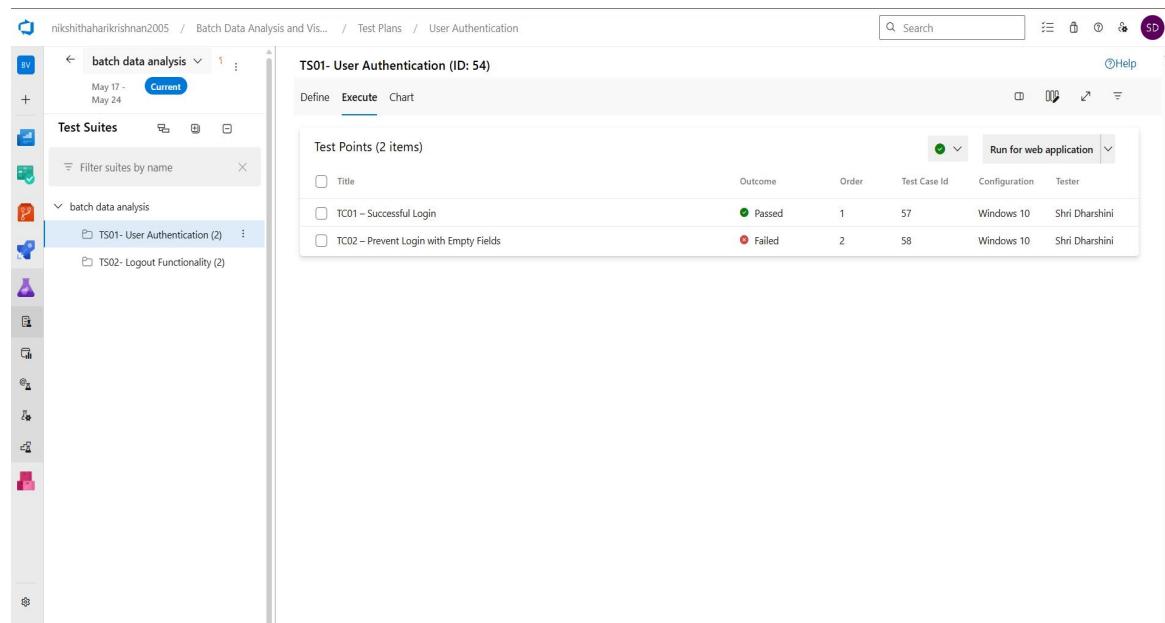
nikshithaharikrishnan2005 / Batch Data Analysis and Vis... / Test Plans / BatchDataAnalysis

TS02- Logout Functionality (ID: 47)

Define Execute Chart

Test Cases (2 items)

	Order	Test Case Id	Assigned To	State
<input type="checkbox"/> TC03- Successfull logout and redirect	1	49	NIKSHITHA H	Design
<input type="checkbox"/> TC04- Access protected page after logout	2	50	NIKSHITHA H	Design



nikshithaharikrishnan2005 / Batch Data Analysis and Vis... / Test Plans / User Authentication

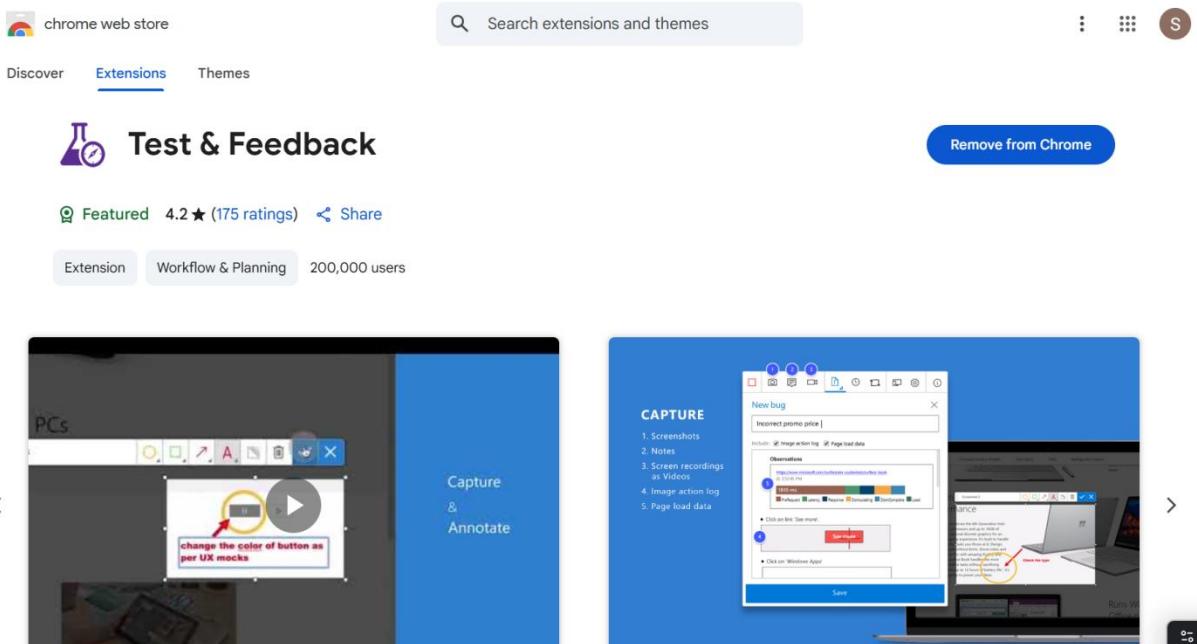
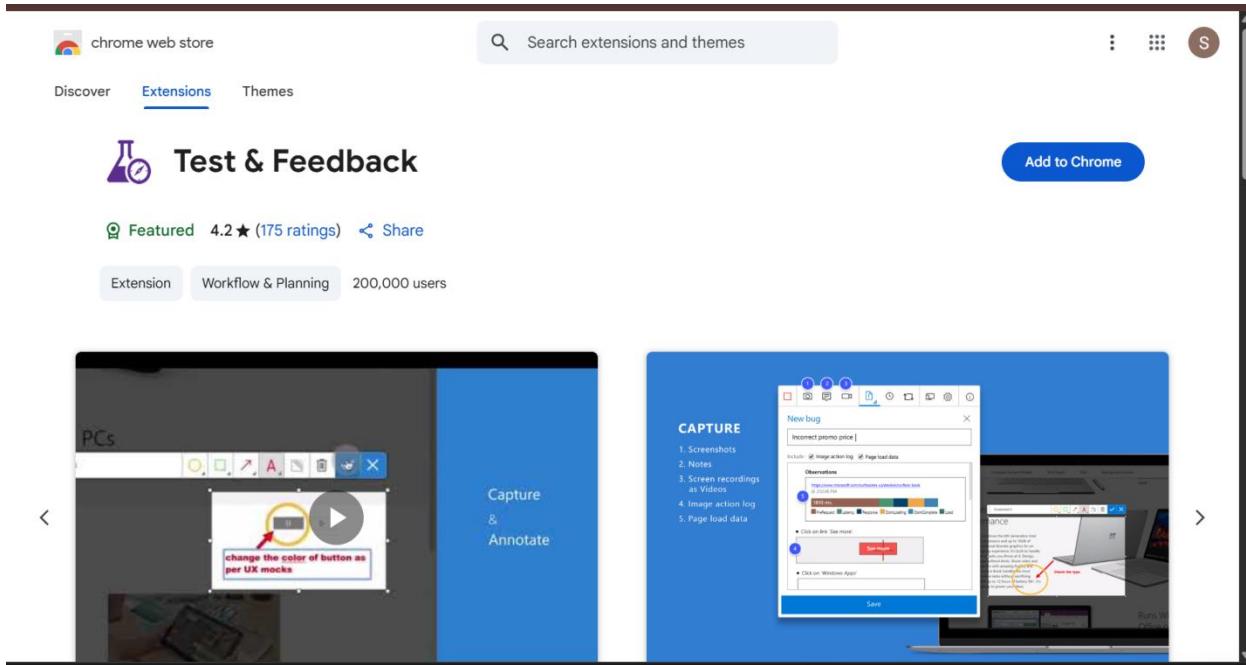
TS01- User Authentication (ID: 54)

Define Execute Chart

Test Points (2 items)

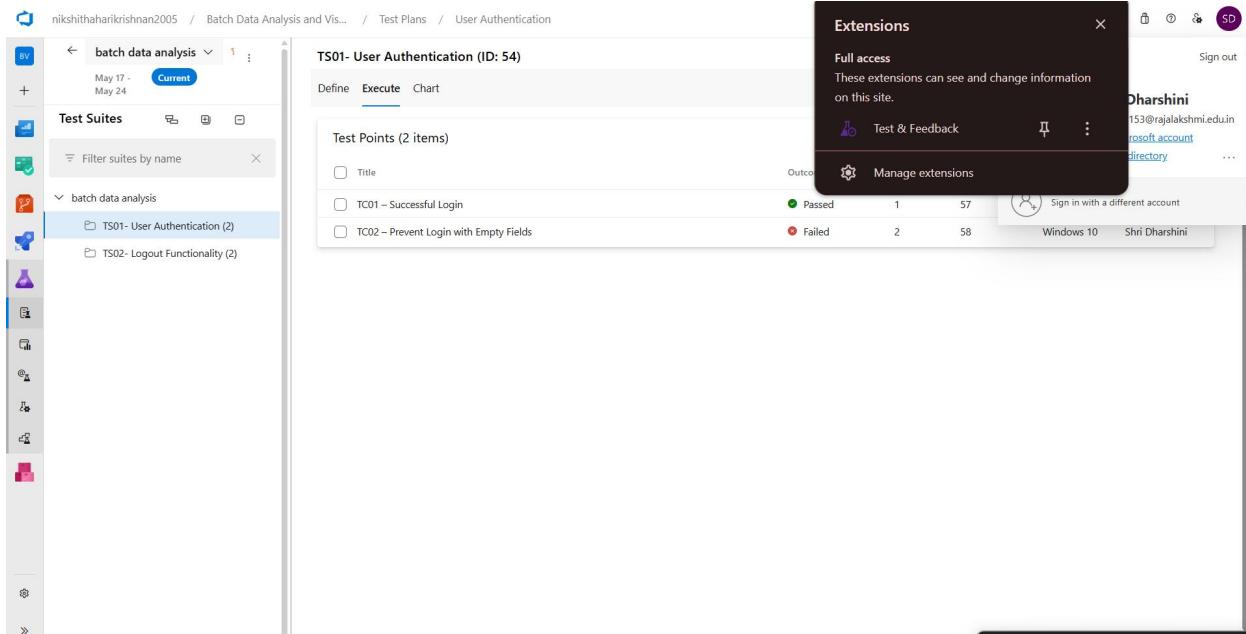
	Outcome	Order	Test Case Id	Configuration	Tester
<input type="checkbox"/> TC01 – Successful Login	Passed	1	57	Windows 10	Shri Dharshini
<input type="checkbox"/> TC02 – Prevent Login with Empty Fields	Failed	2	58	Windows 10	Shri Dharshini

4. Installation of test



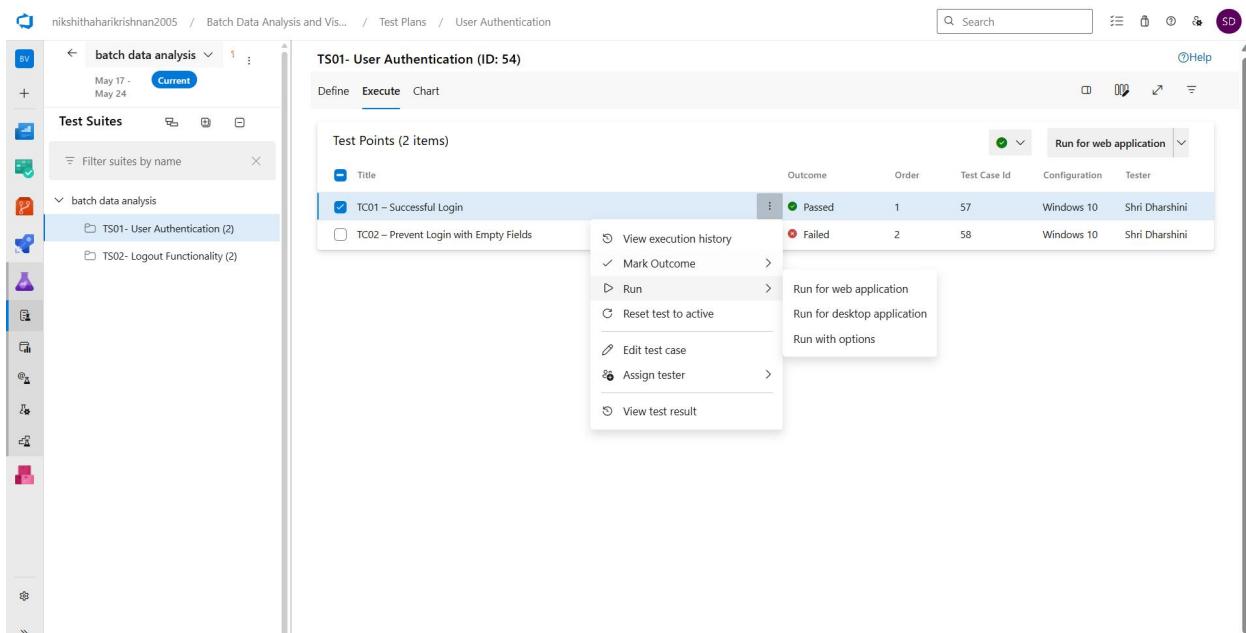
Test and feedback

Showing it as an extension

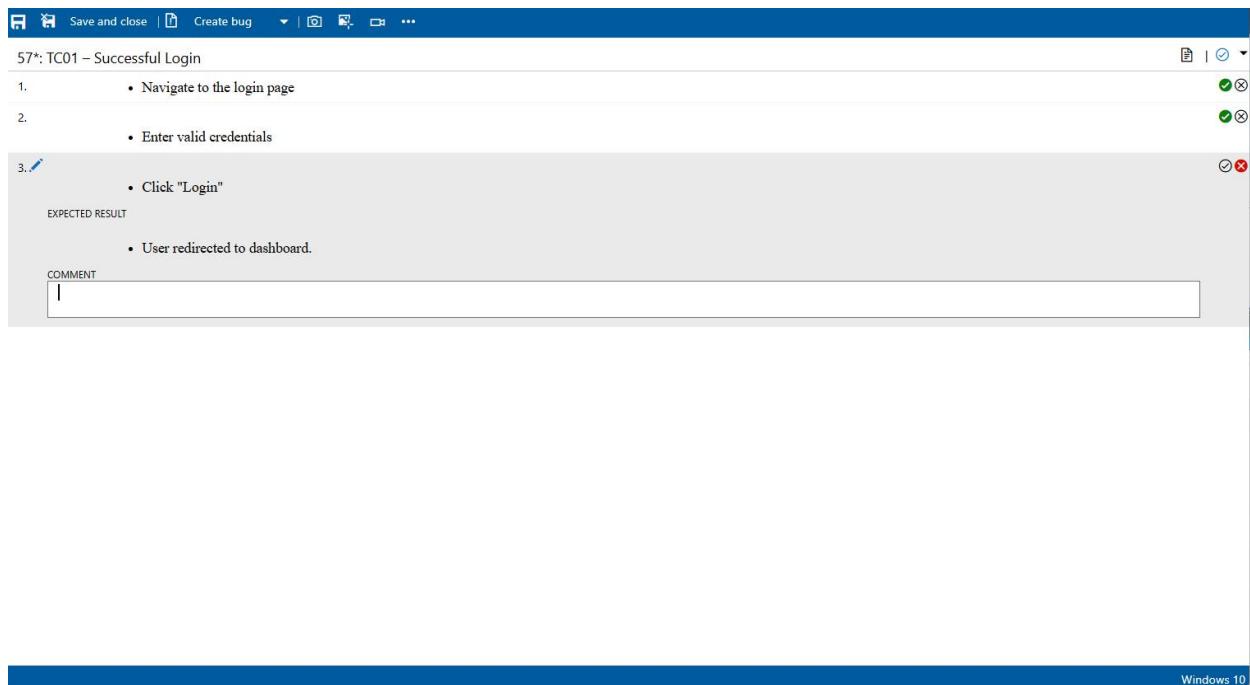


The screenshot shows the Microsoft Test Plans interface. On the left, the 'Test Suites' list shows 'batch data analysis' with 'TS01- User Authentication (2)' selected. The main area displays 'TS01- User Authentication (ID: 54)' with 'Test Points (2 items)'. The first test point, 'TC01 – Successful Login', is marked as 'Passed' (green). The second test point, 'TC02 – Prevent Login with Empty Fields', is marked as 'Failed' (red). A context menu is open over 'TC01 – Successful Login', showing options like 'View execution history', 'Mark Outcome', 'Run', 'Reset test to active', 'Edit test case', 'Assign tester', and 'View test result'. A 'Run for web application' dropdown is also visible. A 'Extensions' overlay is shown on the right, titled 'Test & Feedback', with 'Full access' and a summary of outcomes: 1 Passed, 57; 2 Failed, 58. The tester is listed as 'Shri Dharshini'.

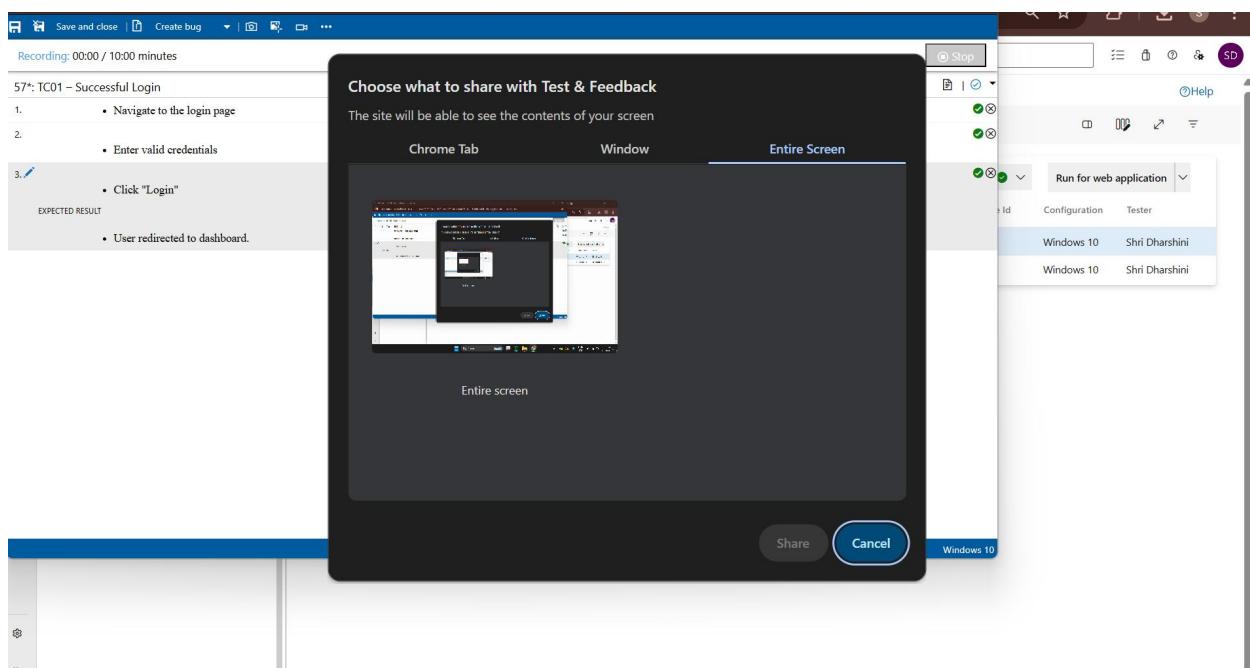
5. Running the test cases



The screenshot shows the Microsoft Test Plans interface with the same setup as the previous one. The 'Run' option in the context menu for 'TC01 – Successful Login' is highlighted. The 'Run for web application' dropdown is also visible.



6. Recording the test case



7. Creating the bug



58: TC02 – Prevent Login Fields

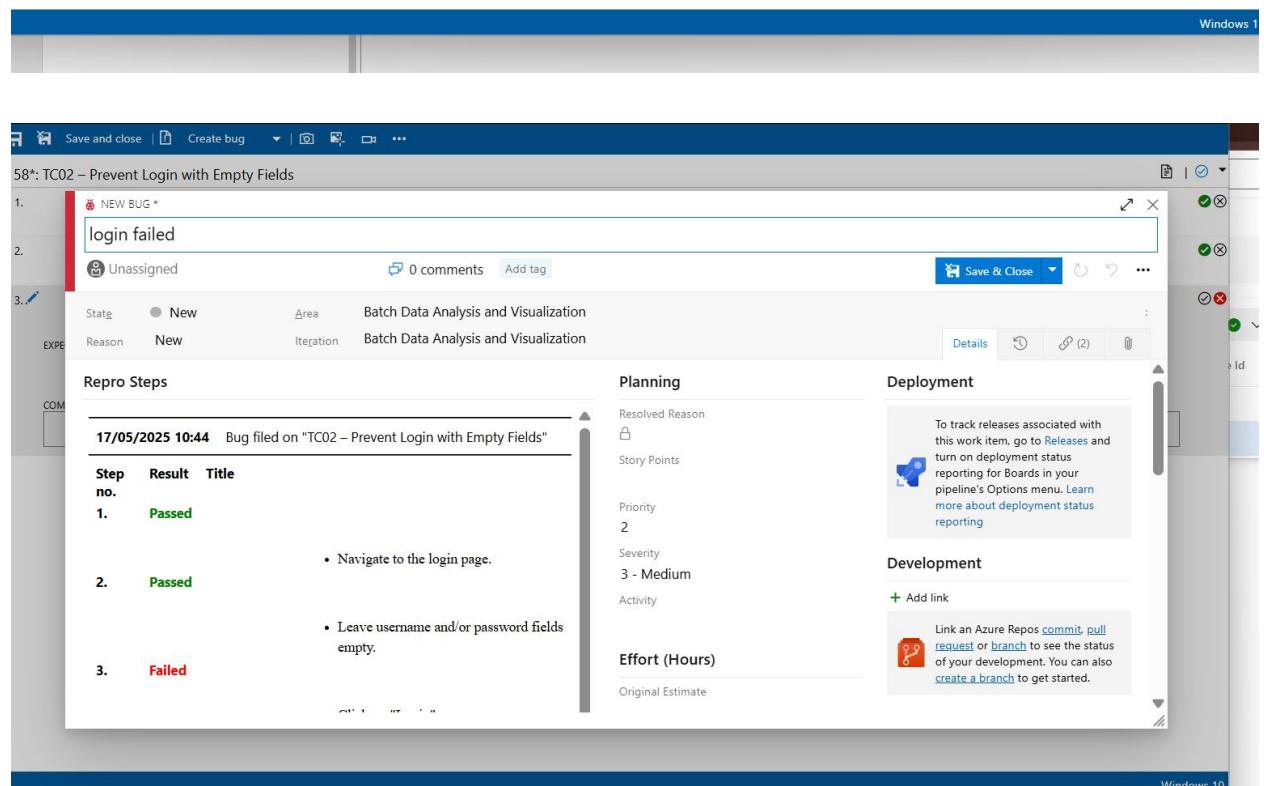
1. • Navigate to the login page.

2. • Leave username and/or password fields empty.

3. • Click on "Login".

EXPECTED RESULT

- Validation error message is shown prompting user to fill required fields.



58*: TC02 – Prevent Login with Empty Fields

NEW BUG *

Title: login failed

State: New **Reason:** New **Area:** Batch Data Analysis and Visualization **Iteration:** Batch Data Analysis and Visualization

Repro Steps:

17/05/2025 10:44 Bug filed on "TC02 – Prevent Login with Empty Fields"

Step	Result	Title
1.	Passed	
		• Navigate to the login page.
2.	Passed	
		• Leave username and/or password fields empty.
3.	Failed	

Planning:

- Resolved Reason:
- Story Points:
- Priority: 2
- Severity: 3 - Medium
- Activity:

Deployment:

To track releases associated with this work item, go to [Releases](#) and turn on deployment status reporting for Boards in your pipeline's Options menu. Learn more about deployment status reporting.

Development:

[Add link](#)

Link an Azure Repos [commit](#), [pull request](#) or [branch](#) to see the status of your development. You can also [create a branch](#) to get started.

Repro Steps

17/05/2025 10:51 Bug filed on "TC02 – Prevent Login with Empty Fields"

Step no.	Result	Title
1.	Passed	<ul style="list-style-type: none"> • Navigate to the login page.
2.	Passed	<ul style="list-style-type: none"> • Leave username and/or password fields empty.
3.	Failed	<ul style="list-style-type: none"> • Click on "Login". <p>Expected Result</p> <ul style="list-style-type: none"> • Validation error message is shown prompting user to fill required fields.

Planning

Resolved Reason: Story Points: 2

Priority: 2

Severity: 3 - Medium

Activity

Deployment

To track releases associated with this work item, go to [Releases](#) and turn on deployment status reporting for Boards in your pipeline's Options menu. [Learn more about deployment status reporting](#)

Development

Add link

Link an Azure Repos [commit](#), [pull request](#) or [branch](#) to see the status of your development. You can also [create a branch](#) to get started.

Related Work

Add link

[Add an existing work item as a parent](#)

Tested By: 58 TC02 – Prevent Login with Empty Fields

8. Test case results

nikshithaharikrishnan2005 / Batch Data Analysis and Vis... / Test Plans / batch data analysis

Test Suites

- batch data analysis (May 17 - May 24, 50% run, 50% passed. [View report](#))
- batch data analysis (TS01- User Authentication (2))
- batch data analysis (TS02- Logout Functionality (2))

TS01- User Authentication (ID: 54)

Test Points (2 items)

Title
<input checked="" type="checkbox"/> TC01 – Successful Login
<input type="checkbox"/> TC02 – Prevent Login with Empty Fields

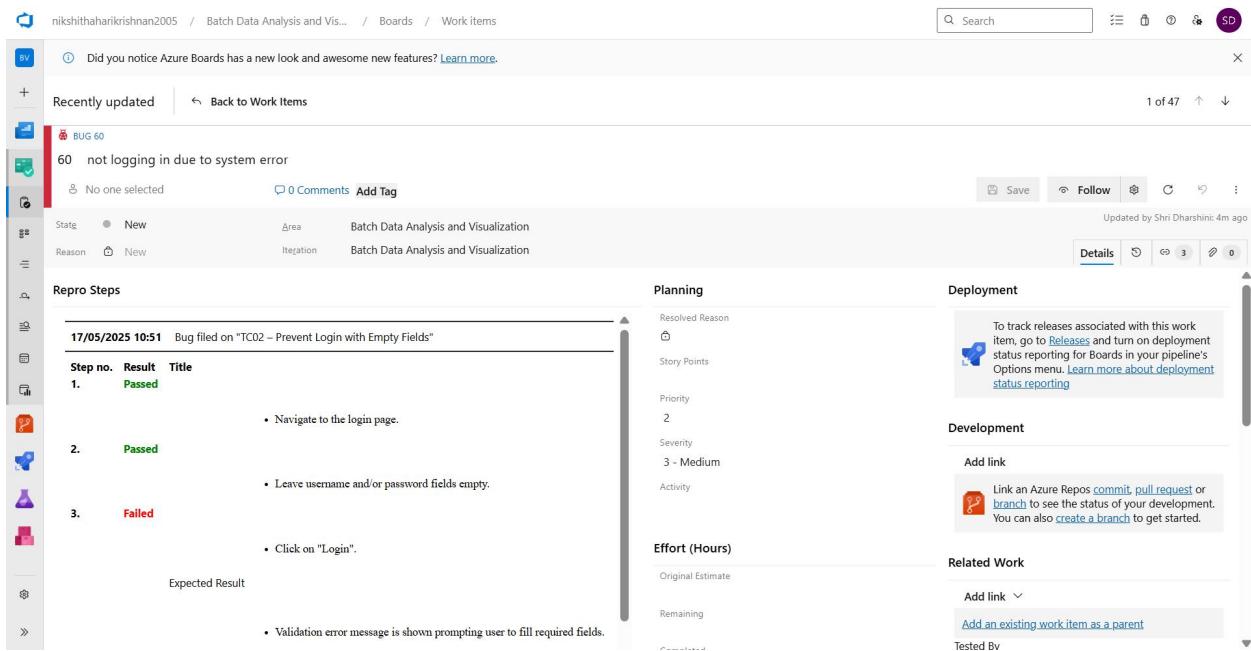
TC01 – Successful Login

Test Case Results

Outcome	TimeSta...	Configuration	Run by	Tester	Test
Passed	16m ago	Windows 10	Shri Dharshini	Shri Dharshini	batch
Failed	17m ago	Windows 10	Shri Dharshini	Shri Dharshini	batch
Passed	28m ago	Windows 10	Shri Dharshini	Shri Dharshini	batch

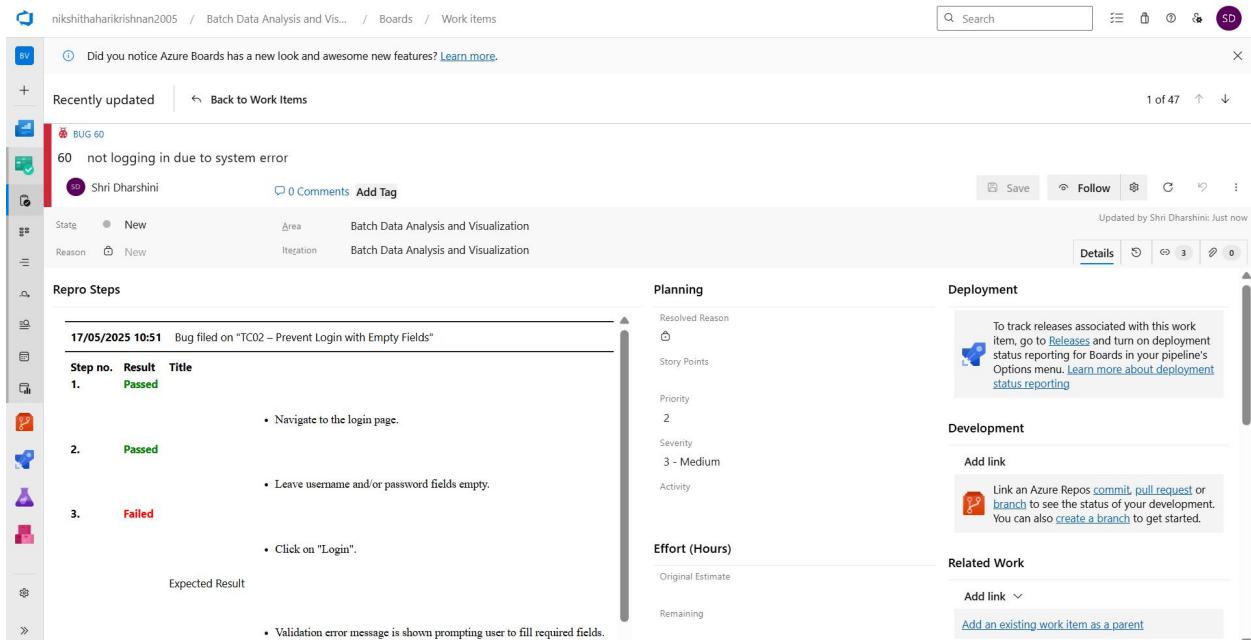
[Open execution history for current test point](#)

9. Test report summary



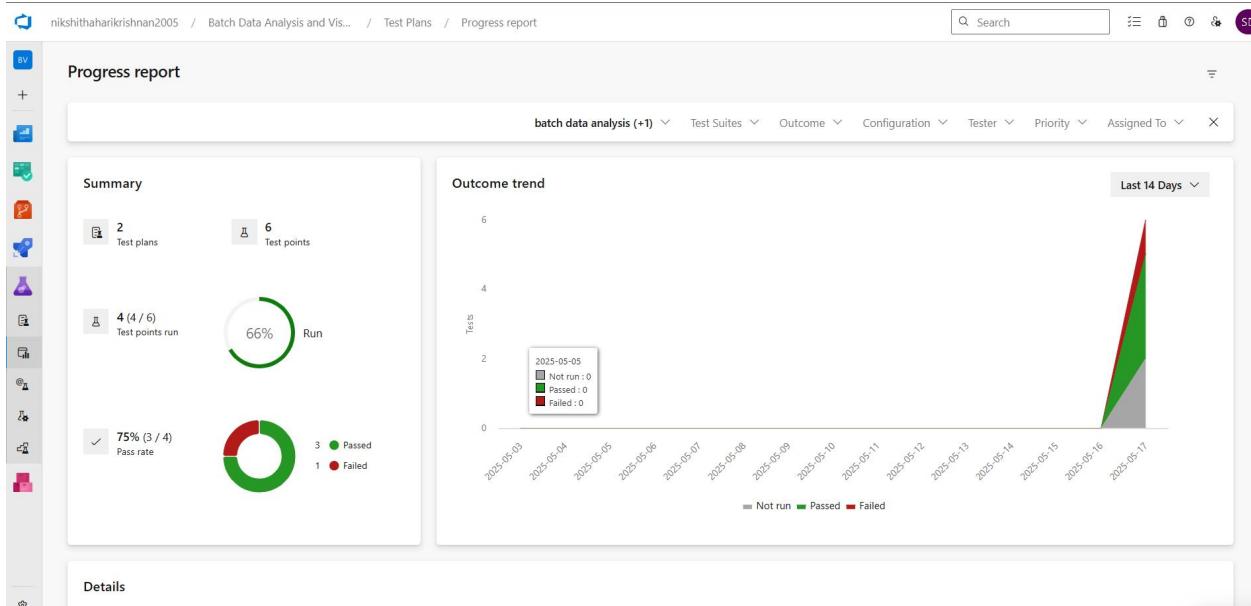
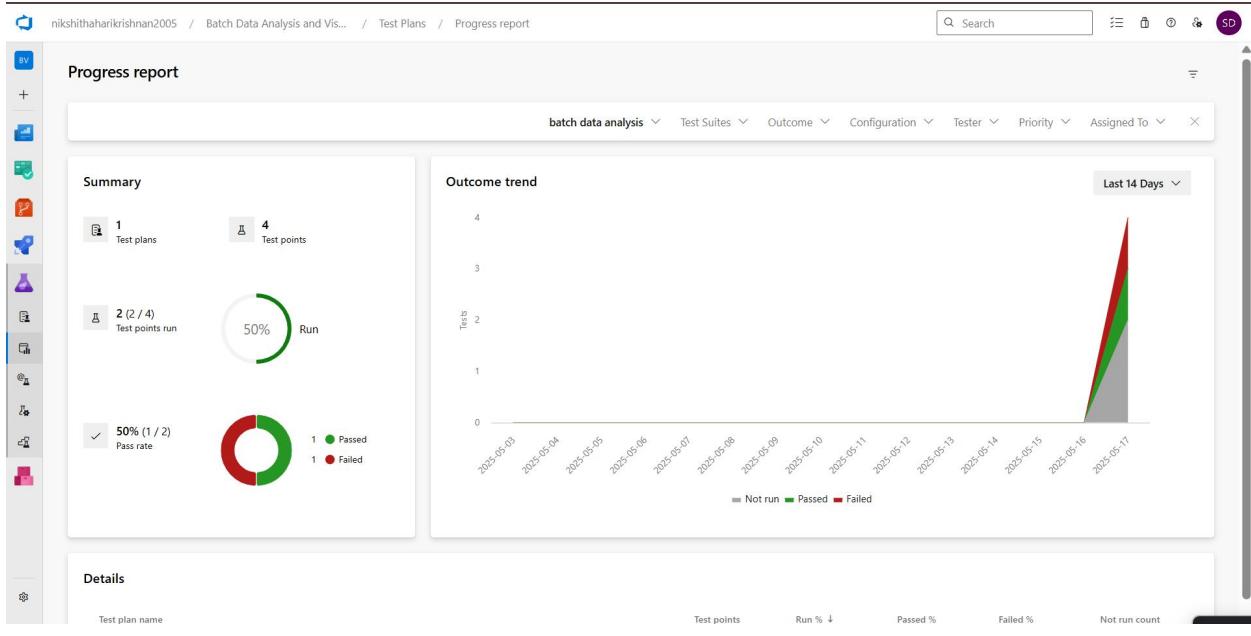
The screenshot shows the Azure Boards work item detail page for a bug titled "not logging in due to system error". The work item ID is 60. The state is "New". The area and iteration are "Batch Data Analysis and Visualization". The repro steps section details three steps: 1. Passed (Navigate to the login page), 2. Passed (Leave username and/or password fields empty), and 3. Failed (Click on "Login"). The expected result is a validation error message. The planning section shows a priority of 2 and a severity of 3 - Medium. The deployment section indicates the work item is associated with a release. The development section shows an "Add link" button. The effort section shows an original estimate of 1 hour. The related work section shows an "Add link" button and a "Add an existing work item as a parent" button. The work item was updated by Shri Dharshini 4m ago.

● Assigning bug to the developer and changing state

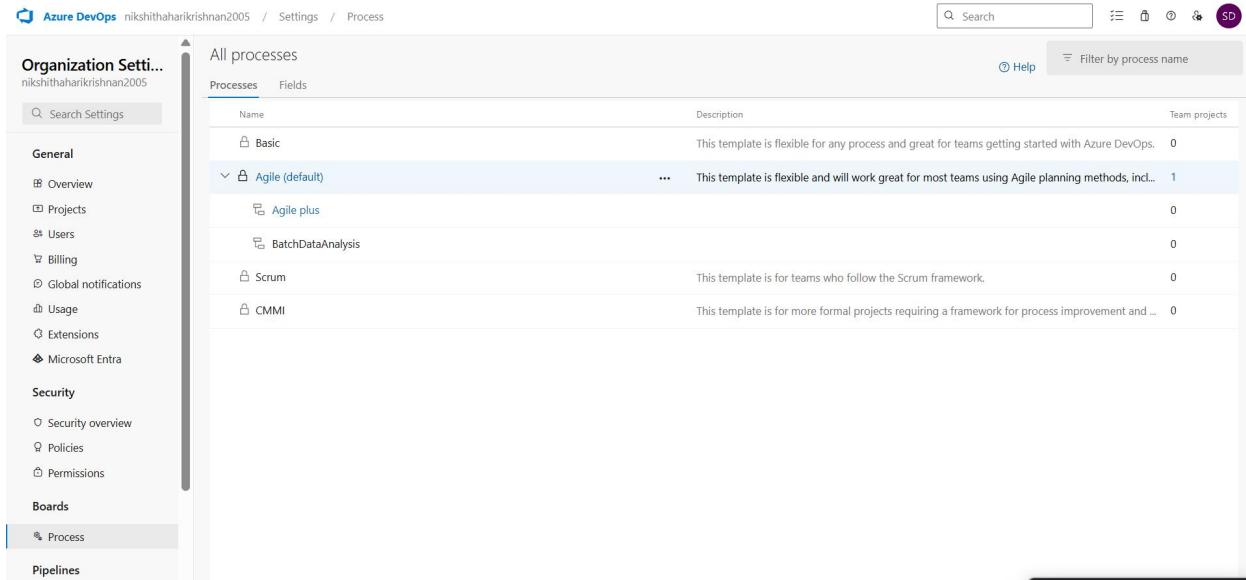


The screenshot shows the same Azure Boards work item detail page after assignment. The developer is now listed as "Shri Dharshini". The state remains "New". The area and iteration are "Batch Data Analysis and Visualization". The repro steps, planning, deployment, development, effort, and related work sections are identical to the previous screenshot, reflecting the same data and status.

10. Progress report

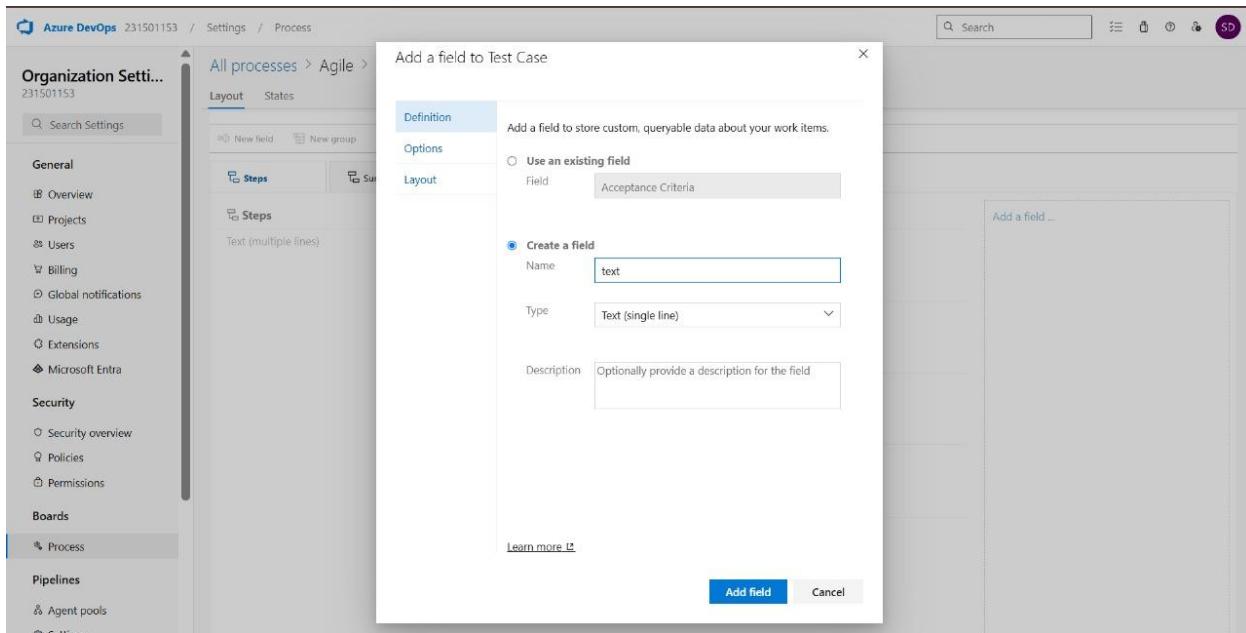


11. Changing the test template



The screenshot shows the 'Process' settings page in Azure DevOps. The left sidebar includes sections for General, Security, Boards, and Pipelines. The main area displays a list of processes under 'All processes'. The 'Agile (default)' template is selected, showing its description: 'This template is flexible for any process and great for teams getting started with Azure DevOps.' and 'Team projects: 0'. Other listed templates include 'Basic', 'Agile plus', 'BatchDataAnalysis', 'Scrum', and 'CMMI'.

12. View the new test case template



The screenshot shows the 'Add a field to Test Case' dialog box. The 'Definition' tab is selected, showing the 'Create a field' section. A new field named 'text' is being created with a type of 'Text (single line)'. The 'Acceptance Criteria' field is also visible. The background shows the 'All processes > Agile' layout settings page.

Azure DevOps 231501153 / Settings / Process

Organization Settings 231501153

Search Settings

General

- Overview
- Projects
- Users
- Billing
- Global notifications
- Usage
- Extensions
- Microsoft Entra

Security

- Security overview
- Policies
- Permissions

Boards

- Process

Pipelines

- Agent pools
- Settings

All processes > BATCH DATA ANALYSIS > Test Case

Layout States Rules

New field New group New page Get extensions

Steps Summary Associated Aut...

Steps Text (multiple lines)

Recent test results Recent test case results

Deployment Deployments

Development Links

Related Work Links

Status Priority Integer

Automation status Text (single line)

Azure DevOps 231501153 / Settings / Process

Organization Settings 231501153

Search Settings

General

- Overview
- Projects
- Users
- Billing
- Global notifications
- Usage
- Extensions
- Microsoft Entra

Security

- Security overview
- Policies
- Permissions

Boards

- Process

Pipelines

- Agent pools
- Settings

All processes > Agile

Work item types Backlog levels Projects

System processes cannot be customized. To add customization [create an inherited process](#).

Name	Description
Batch data analysis and visualization	About this project This project is a web-based application designed for batch data analysis and visualization, hosted on Microsoft Azure. It en...
Digital lending library application	
digital library	
SHRI DHARSHINI	

Result: The test plans and test cases for the user stories is created in Azure DevOps with Happy Path and Error Path.

EXP NO: 9	CI/CD PIPELINES IN AZURE
Date:	

Aim:

To create and demonstrate an Azure DevOps pipeline for automating application builds, tests, and deployment.

PROCEDURE:

Steps to Create and implement pipelines in Azure:

1. Sign in to Azure DevOps and Navigate to Your Project

Log in to dev.azure.com, select your organization, and open the project where your Student Management System code resides.

2. Connect a Code Repository (Azure Repos or GitHub)

Ensure your application code is stored in a Git-based repository such as Azure Repos or GitHub. This will be the source for triggering builds and deployments in your pipeline.

3. Create a New Pipeline

Go to the Pipelines section on the left panel and click “Create Pipeline”.

Choose your source (e.g., Azure Repos Git or GitHub), and then select the repository containing your project code.

4. Choose the Pipeline Configuration

You can select either the YAML-based pipeline (recommended for version control and automation) or the Classic Editor for a GUI-based setup.

If using YAML, Azure DevOps will suggest a template or allow you to define your own.

5. Define Build Stage (CI - Continuous Integration) from YAML file

6. Install dependencies (e.g., npm install, dotnet restore)
7. Build the application (dotnet build, npm run build)
8. Run unit tests (dotnet test, npm test)
9. Publish build artifacts to be used in the release stage
10. Save and Run the Pipeline for the First Time

Save the YAML or build definition and click “Run”.

Azure will fetch the latest code and execute the defined build and test stages.

11. Configure Continuous Deployment (CD)

Navigate to the Releases tab under Pipelines and click “New Release Pipeline”. Add an Artifact (from the build stage) and create a new Stage (e.g., Development, Production).

12. Configure the CD stage with deployment tasks such as deploying to Azure App Service, running database migrations or scripts, and restarting services using the Azure App Service Deploy task linked to your subscription and app details.

13. Set Triggers and Approvals

Enable continuous deployment trigger so the release pipeline runs automatically after a successful build.

For production environments, configure pre-deployment approvals to ensure manual verification before release.

14. Monitor Pipelines and Manage Logs

View all pipeline runs under the Runs section.

Check logs for build/test/deploy stages to debug any errors.

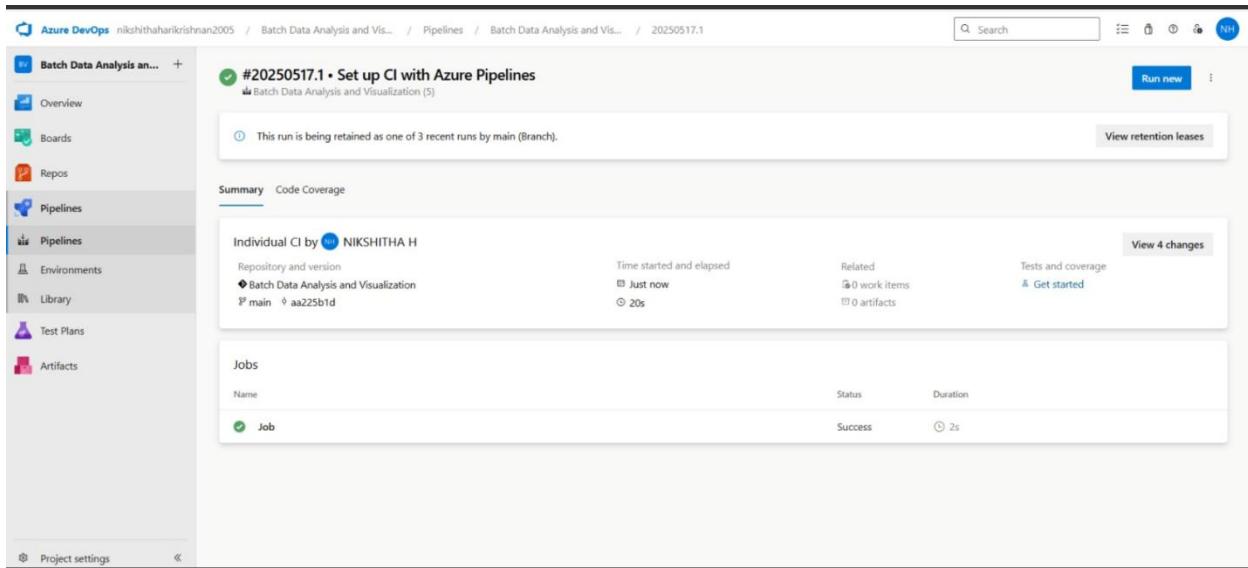
You can also integrate email alerts or Microsoft Teams notifications for build failures.

15. Review and Maintain Pipelines

Regularly update your pipeline tasks or YAML configurations as your application grows. Ensure pipeline runs are clean and artifacts are stored securely.

Integrate quality gates and code coverage policies to maintain code quality.

Pipeline



The screenshot shows the Azure DevOps Pipeline interface for a project named 'Batch Data Analysis and Visualization'. The pipeline run is identified as '#20250517.1 • Set up CI with Azure Pipelines'. The run was triggered by 'NIKSHITHA H' and is currently in progress. The pipeline has a single job named 'Job' which has completed successfully in 2 seconds. The interface includes a summary of the repository and version, and links to view retention leases, changes, and coverage.

Result:

Successfully demonstrated pipelines in azure devops

EXP NO: 10

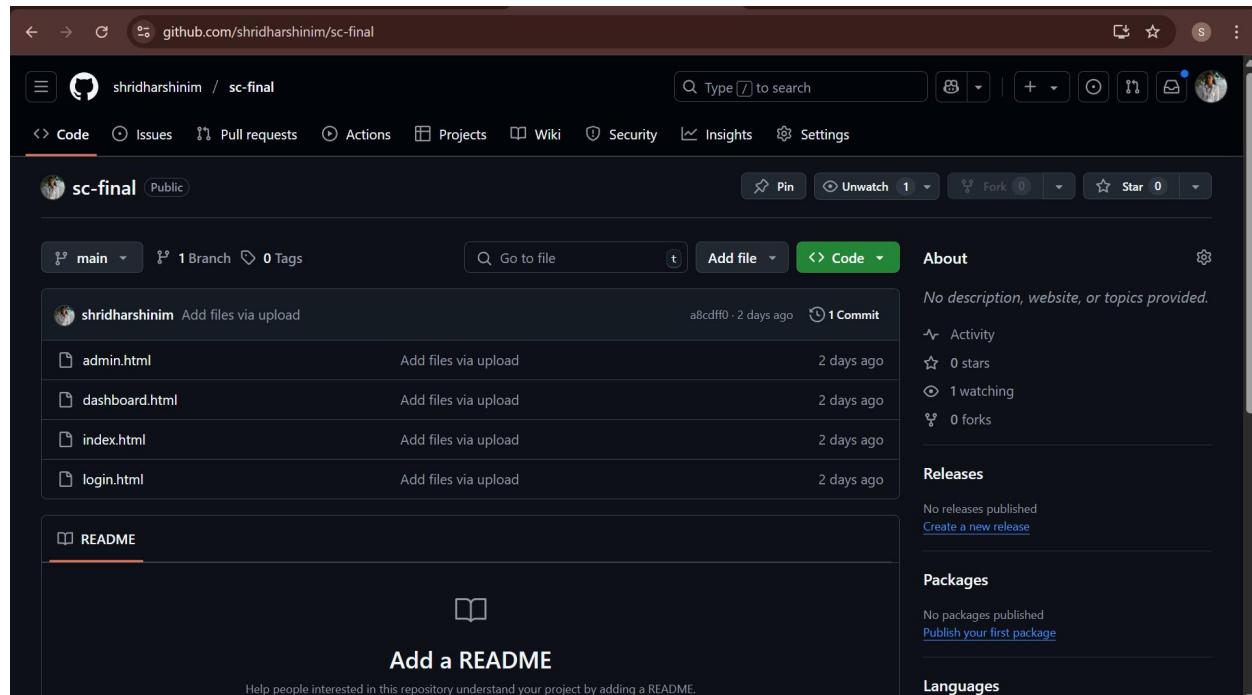
Date :

GITHUB: PROJECT STRUCTURE & NAMING CONVENTIONS

Aim:

To provide a clear and organized view of the project's folder structure and file naming conventions, helping contributors and users easily understand, navigate, and extend the Music Playlist Batch Creator project.

GitHub Project Structure



The screenshot shows a GitHub repository page for 'sc-final' owned by 'shridharshinim'. The 'Code' tab is selected, displaying a commit history:

- shridharshinim Add files via upload (a8cdff0 - 2 days ago) 1 Commit
- admin.html Add files via upload 2 days ago
- dashboard.html Add files via upload 2 days ago
- index.html Add files via upload 2 days ago
- login.html Add files via upload 2 days ago

On the right side, there are sections for 'About', 'Releases', 'Packages', and 'Languages'. The 'About' section notes 'No description, website, or topics provided.' The 'Languages' section shows 'No packages published' and 'Publish your first package'.

Result:

The GitHub repository clearly displays the organized project structure and consistent naming conventions, making it easy for users and contributors to understand and navigate the codebase.